Innovator 11

Manual classiX C Documentation

Creating Model Documentation

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Manual classiX C Documentation–Innovator 11 (version 11.2)–Edition July 2010

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Part C Creating Model Documentation

As soon as elements exist in your model you can generate model documentation from specifications and various information (text files, graphics etc.).

Procedure

There are various steps for creating model documentation:

- The first step is to specify the structure your documentation should have. To do this, create a new **documentation repository** (also known as the documentation's management file) or open an existing one. Open the documentation editor in the program group in the documentation folder (`inodtree.exe`).

  It is mandatory to carry out the following in the documentation editor if you want to create a new documentation repository:

  - Create the **structure**, i.e. chapter structure of the documentation to be generated
    This task takes place in the documentation's so-called structure tree.
  - Link a structure in the documentation's overview tree with a so-called **selection**
    You can also link these with headers and footers, as well as title pages and specify model-specific output options.

Note

You can make the first layout specifications already in the documentation editor (see chapter C-7, page C-133).

  - Once you have created the structure and selection of the documentation to be created, close the documentation editor. Your entries and changes are stored in the documentation repository. This only specifies the layout and structure of the documentation to be generated, but does not contain documentation contents. It is therefore above and beyond a model-specific **layout**.
- The second step is to link a selection from the model-specific layout previously created with the model to be documented. In a so-called **documentation template**, set which output formats are to be used and where the generated file should be saved, among other things.
- Then store the desired generation file for your documentation from the model browser in so-called **information files** to be able to edit them offline in the next step. Select the documentation contents in the model browser. Set which of your model's nodes should be taken into consideration in the model documentation and initiate generation.

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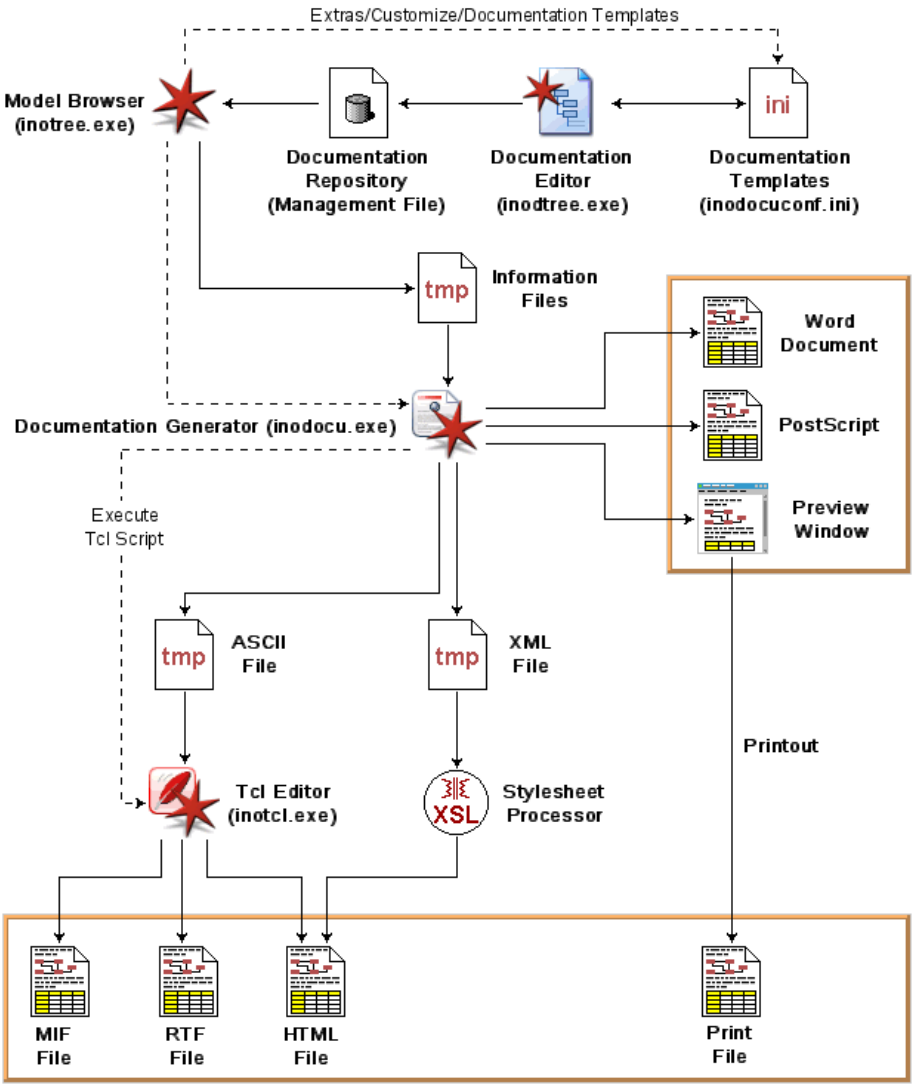
- The actual **documentation** is created from the `inodocu.exe` documentation generator in the information file created in the previous step.



Creating Documentation

Note **As long as the information files created are not deleted, you can repeat documentation generation as many times as necessary. This is a good idea if e.g. one and the same model state should be maintained in the various output formats.**

C-1 Model Documentation–A Quick Intro

You can create documentation which contains all or partial information from a model at a particular development state using Innovator.

You can make extensive settings to create model documentation which conforms with your ideas. However, to quickly be able to get a picture of the performance of Innovator's documentation generator, one of the example configurations which is included within the scope of delivery of Innovator should be used.

The following pages will show you how you can quickly create documentation about your current model using the example configuration.

Procedure

There are various steps to take when generating documentation:

- Create a documentation repository or open one which is already available. The example documentation repository is called `inodocu.dr`.
- Specify the documentation's export format and directory.
- Select the model element to be documented in the model browser.
- Generate the documentation during the last step.

Information about the first two steps is summarized in the so-called **documentation templates**. The procedure for documentation generation in the simplest case consists of selecting the model element to be documented in the model browser and starting the documentation procedure set by this.

Other Information

- chapter C-2, "Specifying Elements", page C-9
- chapter C-3, "Creating Documentation Repositories", page C-37
- chapter C-4, "Configuring Model Documentation", page C-73
- chapter C-5, "Creating Model Documentation with the Documentation Generator", page C-89
- chapter C-6, "Viewing Documentation in the Preview Window", page C-115
- chapter C-7, "Organizing Documentation Layout", page C-133

Creating Simple Documentation

Simple documentation can be created in only a few steps.

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How to proceed

To create simple documentation:

» Select the model elements which you want to document in the model browser.

» Start the documentation generation using a menu item from the menu `Model>Documentation`, e.g. `Model>Documentation>Preview`.
Information files are created by Innovator.

» If you want to cancel the documentation generation, click on `[Cancel]` in the dialog box `Documentation/Preview`.
If documentation generation is not canceled, the documentation generator `inodocu.exe` is opened upon completion of the generation. This application creates the actual documentation from the files created during the first phase. After generation is completed, the `preview` window opens, which displays the documentation.

Using Documentation Templates

The structure of the documentation is based on the content of the documentation template. This documentation template is a documentation repository which you create using the documentation editor. Here you store the chapter structures which specify the degree of detail and the focus of the documentation. You can complete these with a title page, header and footer, as well as texts and data.

Example structures and selections (combination of various modules) are preconfigured in the example `inodocu.dr` template; this means that you don't need to actually make any changes. You can view the settings to gain a better understanding.

How to proceed

To open the documentation template and become acquainted with the structures and selections configured in it:

» Start the documentation editor in the Innovator program group in the documentation folder (`inodtree.exe`). The documentation editor opens.
There is another entry for each Innovator component under the `structure` default node; these contain example structures which you can use for your documentation.
You can set which of these structures you want to use together with which title pages, headers and footers using the default node under `Selection`. You can also find pre-configured nodes here which can be used as a quick introduction.

Note **Structures and selections are always method-specific. You can only use structures and selections for your current model which are provided for the current method.**

» To see which foundation a selection is made up of, select a node, `Selection><Model Type>><Example Selection>`, and select `Edit>Properties`.
Various selection lists in the tab `Layout` set which foundations are combined in the current selection. All e.g. structures which are listed in the last drop-down list `Structure` exist in the documentation editor under the default nodes `Structure><Model Type>`.

» If you do not want to make any selections, close the dialog box with `[Cancel]`.

Read how to create structures and selections in various documentation templates in chapter C-3, "Creating Documentation Repositories", page C-37.

Read how to change your documentation layout in chapter C-7.1, "Editing Title Pages, Headers, Footers, Headings", page C-133.

Editing Documentation Templates

The documentation templates (including the selection specification within them) define the tangible contents of the information files. These are an intermediate product which the actual model documentation will be created from later. They contain all information about the documentation, but they are not yet in the desired output format.

They set which model type is documented, which selection is used from which documentation template and where the information files should be stored.

How to proceed

To edit a documentation template:

» Jump to the model browser select `Extras>Customize>Documentation Templates...`.
The dialog box of the same name appears.

» Select a documentation template from the list box `Available documentation templates`

» Click on the `[Properties...]` button.
The `<'Documentation Template'> Properties` dialog box is opened.
Read about your configuration options in chapter C-4, "Configuring Model Documentation", page C-73.

» Jump to the tab `Input Arguments`.

» Specify the documentation's input data:
- In the `field Repository`, the documentation template (e.g. `inodocu.dr`)
- In the `drop-down list Browse`, the selection to be used from this repository

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» If you want to use one of the search inquiries configured in the model browser which should specify the model elements to be documented, select the corresponding search inquiry in the drop-down list `Use search`.

If you only want to use the selected elements, select the `No Search` entry.

» Jump to the tab `Output Format`.

» Select the type of documentation to be generated from the drop-down list `Kind of output`.

» Set the information file's directory and name in the field `Name of information files`.

» Enter which directory the result files should be stored in in the field `Directory for output files`.

» Jump to the tab `Generation Options`.

» You can activate various options which will affect the generation procedure here.

For more information, read chapter C-5.1.2, "Using Documentation Generator Parameters Under Windows", page C-91.

» Jump to the tab `Postprocessing`.

» Configure the scripts which should further edit the result files according to the output format.

» Set whether the documentation generation results should be automatically opened by activating the appropriate radio button in the group box `Open result`.

Read about this in Kapitel C-5.3.2, "Displaying Documentation in MS Word for Windows Format", Kapitel C-5.3.3, "Displaying Documentation in ASCII Text Format" and Kapitel C-5.3.4, "Displaying Documentation in XML Format", page C-101.

» To apply your changes, click on `[Apply]`.

» To close the `Properties of <Documentation template>` dialog, click on `[Close]`.

» Click on `[OK]` in the dialog box `Customize/Documentation Templates` to adopt your changes and close the dialog box.

Generating Documentation

Initiate documentation generation and, in doing so, specify which of your model's elements should be specified in the documentation.

How to proceed

To initiate model documentation generation:

» Select the elements which should be taken into consideration in the documentation in the model browser.

» Select `Model>Documentation><Documentation Template>`.

A documentation will be generated which

- Contains the elements selected in the model browser or defined in the search inquiry.
- Corresponds to the selected structure in its depth of detail
- Contains the documentation foundation which you combined in the selection chosen
- Will be generated from the output format you specified
- Contains files which store the output directory which you set

Documentation generation begins. If you have selected the preview window as the output format, a window appears which you can view the generated documentation in.

Note

If you only want to start documentation generation for the current selection in the model browser, click on `[Execute]` **in the** `Properties of <Documentation template>` **dialog.**

You can find more information about documentation generation in chapter C-4.3, "Generating Information Files", page C-81.

Read how to work with the preview window in chapter C-6, "Viewing Documentation in the Preview Window", page C-115.

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C-2 Specifying Elements

You can store any set of specifications in the corresponding repository for model elements using the specification element; these can then be integrated in your model's documentation at a later stage (see section "Including Element Specifications in the Selection", page C-69). The written specifications created with this editor are vital for creating comprehensive model documentation. These texts are normally constantly maintained throughout the course of the project.

Text entry for element specification takes place either directly in the specification editor's editor window or with Innovator's `inotext.exe` text editor. You can create text files with this text editor; these are then not created at a later stage as element specifications (see chapter C-2.1.3, page C-13). You can also use text files which were produced in other editors or in text processing programs.

You can also integrate conventional editors in the Innovator environment and use them for creating element specifications (see page C-33).

C-2.1 Opening, Closing and Setting-Up the Innovator Specification Editor

You can open the specification editor from all graphic displays of a model. It largely has the same functions as a conventional text editor. This means that you can effortlessly create element specifications and constantly maintain these throughout the entire course of the project.

Opening the Editor Window

You can open the editor window in all graphic displays of a model or element.

How to proceed

To open the editor window:

» Jump to the model browser or a graphic depiction.
If you call the specification editor for various selected elements, an editor window opens for each respective element selected.

» Select one or more elements.

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» Select Element>Specification or Edit>Specification.
The specification editor's editor window split into three section opens for each element selected. The TEXT specification type is shown as standard (see page C-27).
Learn how to set the position of the use window on page C-12.
The windows are displayed one on top of each other. To be able to view them more clearly:

» Move the window to the position you want.

Note **You can only edit an element specification which has a locked status. This lock occurs automatically if you call the specification editor from a locked element. If you open the editor from an unlocked element, you need to lock the element specifications you opened before you can edit them.**

If you called the editor from an unlocked element, you need to lock the element specification you opened before you can edit it.

» Select Specification>Lock.
The element specification is locked and can now be edited.

Saving Element Specifications

You can transfer the information currently in the editor window as an element specification in the respective repository.

How to proceed

To save the contents of an editor window:

» Select Specification>Save.
The information currently in the editor window is transferred in the respective repository. The editor window then has the status unaltered.

Closing the Editor Window

You can leave the specification editor once you have saved the entries and changes in the editor window as an element specification in the repository.

How to proceed

To close the specification editor:

» Select Specification>Close.
The editor window is closed.
If you change the contents in the editor window, but haven't saved it yet, the dialog box Attention appears.
To save the changes:

» Click on [Yes].
The editor window closes, the changes are transferred in the repository.

C-2.1.1 Changing Navigation Frames and Organizing Interfaces

The specification editor's window is split into three horizontal areas which each fulfill different tasks. You can enter texts for element specifications in this window and also obtain various information about their status and labels. You can alter the size of the areas according to your requirements. As with other Innovator editions, you can organize the way the interface is displayed to a certain extent.

Using Information and Functions in the Editor Window

The three navigation frames in the specification editor provide different information:

- The top so-called **fact area** displays when and who created or last changed the document. The fact area can also contain defaults for the specification (see page C-26). You cannot modify the fact area.
- The middle so-called **main area** is used for entering and editing text. This is where the actual element specification in the respective text types is.
- The lower so-called **label area** contains the labels entered.

You can also find important information in the window's title bar and the status bar:

- The element type, name of the element and model appear in the window's title bar.
- The status shown in the editor window's status bar relates to the main area. The status bar also specifies which of the three areas is selected, i.e. where the insertion point is at the moment. You can see which specification type is called in the status bar (see page C-27). This is specified in double angle brackets <>.

Changing the Navigation Frames

You can alter the size of the respective navigation frames according to your individual requirements. To be able to have a clearer overview when editing texts, it is possible to move the specification area and the label area completely out of the window, which means that the main area can have the largest display area possible.

How to proceed

If you want to change the size of a navigation frame:

» Place the mouse pointer on the parts of the window at the top or the bottom in such a way that a double arrow appears.
The parts of the window can then be moved up or down.

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» Move the parts of the window up or down to the desired position.

To move the specification area or label area completely from the view:

» Move the respective part of the window as far above or below until the area disappears from the window.

Organizing an Editor Window's Interfaces

As with other Innovator interfaces, you can organize the size of the specification editor yourself.

You can specify the following settings in the specification editor:

- Size and position of the application window
- Color of the foreground and background
- Icons in the toolbar
- Entries in the context-sensitive pop-up menu
- Fonts in the navigation frames
- You can also make Tcl scripts available as menu items.

C-2.1.2 Jumping Between Element Specifications

You can access and edit specifications for other elements in the specification editor; this can either be done in the current editor window or in a new one.

Note **If an editor window is already opened for the desired element specification, this window appears in the foreground. Data is not reimported! The current editor window is retained.**

How to proceed

To call a specification for an element in the current editor window:

» Select `Specification>Close and Open...`.

The dialog box of the same name appears. You can find your current model's element types in the list box `Object list`.

» Select the desired element type in the list box `Object list`.

This selection restricts the list of elements already specified in the drop-down list `Name`.

» Enter the name of the desired element in the field `Name` or select one from the drop-down list.

» Confirm your selection with [OK].
If you haven't saved the last change in the contents of the current window which you want to use to call an element specification using Specification>Close and Open..., a dialog box appears which you have to confirm whether you want to save your changes in.
If you want to save the changes:

» Click on [Yes].
The changes are adopted in the respective repository.

How to proceed

If you want to call an element specification's data in a new editor window:

» Select Specification>Open....
The dialog box of the same name appears.

» Select the desired element specification as described above.

» Confirm your selection with [OK].

C-2.1.3 Converting Text Files into Element Specifications (and Vice Versa)

You can load and edit contents of any text files in the main area to the specification editor's window and, if applicable, save them as element specifications. It is also possible to save created element specifications as text files in the specification editor. You can choose any window areas which the text should be saved from. Text from an element specification's various navigation frames is always saved together in a file.

Note

Pure ASCII files are normally imported. If you create files in a text processing program, it is a good idea to save this in ASCII format.

Importing Text Files and Saving them as Element Specifications

If you load the contents of a text file in the specification editor, you can edit this and save it as an element specification.

Note

If you save an imported text file as an element specification, the original file if not affected by possible changes.

How to proceed

To load a file's contents in the main area of the specification editor:

» Place the insertion point where the text should be inserted.

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» Select Specification>Insert from File....
The dialog box of the same name appears.

» Select the file which contains the contents you want to insert.

» Click on [Open].
The contents of the selected file is inserted in the main area of the editor window where the insertion point was specified. Text which already exists is not overwritten. You can now edit or save the text as usual in the editor window.

How to proceed

If you want to save the contents of the file imported in the specification editor as an element specification:

» Select Specification>Save.
The text is stored as an element specification in the corresponding repository.

Saving Element Specifications as Text Files

You can also save element specifications as text files.

Note

The Specification>Save to File... command only saves the text as a file. Element specification is not influenced in the repository.

How to proceed

To save an element specification as a pure text file:

» Select Specification>Save to File....
The dialog box of the same name appears.
You can specify as many times as required whether text should be saved from the main area and/or from the specification area and label area. Text from the respective navigation frames selected is saved together in a file.
To save information from the specification, main or label areas:

» Activate the check box Facts text, Main text and/or Label text.
This opens another dialog box Specification/Save to File.

» Enter the name of the file in the File Name field and select the desired path component.
To save the file:

» Click on [Save].
Depending on which selection you made, the text from the corresponding area is saved in the created file.

C-2.2 Working in Text

When working in text, the specification editor contains the same functions as a conventional text editor. In the main area of the editor window, you can easily:

- Search for strings
- Copy strings onto the clipboard
- Insert strings from the clipboard
- Replace strings
- Insert and use hyperlinks to model elements, files and web addresses

C-2.2.1 Search for Strings

You can search for certain strings in the main area of the editor window. You can use text samples to search for regular expressions, i.e. a set of strings. Learn how to use a text sample when searching in chapter B-3, "Searching for Information", page B-81. You can also specify whether the search should take case sensitivity into consideration.

Note

Each character is shown as itself when searching with a text sample, apart from the special characters \, [,], ., *, $ and ^.

How to proceed

To search for a certain string in the text:

» Select Edit>Find.
The dialog box of the same name appears.

» Enter the desired string in the field Find, use a text sample if necessary.
Specify whether the text above or below the insertion point should be searched in the group box Direction.
To search the text below the insertion point:

» Activate the option button Forward.
To search the text above the insertion point:

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» Activate the option button `Backward`.
If you only want to search for specific characters which are either capitalized or not:

» Activate the check box `Case sensitive` in the group box `Mode`.
In this mode, the strings in the field `Find` are only searched for according to the case sensitivity.

» Click on `[OK]` to start the search.

How to proceed

To repeat the search:

» Select `Edit>Redo - Find`.

C-2.2.2 Editing Text

As with other conventional text editors, you can use substrings of any size when editing texts. You can mark, cut, and copy text in the main area and store it or insert it in the clipboard using an array of options. It is also possible to define strings and replace them with other ones.

Marking, Cutting, Copying or Inserting Text

You can mark and edit substrings of any size in the main area of the specification editor.

How to proceed

To mark the entire text of an element specification for editing:

» Select `Edit>Select All`.
You can now copy, delete or replace the entire text.

How to proceed

To cut the entire text or a part of the text and store it on the clipboard:

» Mark the entire text or the desired string.

» Select `Edit>Cut`.
The entire text or the desired string is removed from the text and stored on the clipboard.

How to proceed

To copy the entire text or a part of the text and store it on the clip board:

» Mark the entire text or the desired string.

» Select `Edit>Copy`.
The entire text or the desired string is copied from the text and stored on the clipboard.

How to proceed

To insert cut or copied text:

» Place the insertion point where required.

» Select `Edit>Paste`.
The text from the clipboard is inserted.

Replacing Strings

You can enter specific strings which should be replaced by other defined strings. You can check and confirm these individual replacements. You can also enter whether a certain number of strings or all strings entered should be replaced from the insertion point in the text.

Note

The `Edit>Replace...` command only searches the text after the insertion point. To replace the selected string in the entire text, it is a good idea to set the insertion point at the beginning of the text and start the command.

How to proceed

To replace specific strings with other ones:

» Place the insertion point where the string should be replaced.

» Select `Edit>Replace...`.
The dialog box of the same name appears.

» Enter the string which you want to replace in the field `Replace` or select it from the drop-down list `Replace`.

» Enter the string which should replace the string in the field `With` or select it from the drop-down list `With`.

» To replace the string using the confirmation, activate the group box `Mode` in the check box `Confirmation`.

» To take case sensitivity into consideration, activate the group box `Mode` in the check box `Case sensitive`.

» Click on `[OK]` to start the procedure.
The string entered is replaced at the insertion point by a new string corresponding to the activated mode.

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» To repeat the command from the insertion point, select `Edit>Redo - Find`.

C-2.2.3 Inserting and Using Hyperlinks

You can insert various hyperlinks in specification editors; you can use these to call specific targets:

- Model elements in available Innovator models
- Files which are available via the network (and are linked with an application for opening the file)
- Web addresses which can be opened in a standard Internet browser

Die Adresse des Hyperlinks muss ein registriertes Protokoll (also z. B. http für Web-Adressen oder aox für Modellreferenzen) darstellen.

Für die Hyperlinks werden zwei Formate unterstützt:

- Hyperlink als Klartextadresse, die durch die entsprechenden Befehle als Hyperlink interpretiert werden kann, z. B. http://www.mid.de
- Hyperlink mit verborgener Adresse und Text in Hyperlink-Formatierung (nur für Microsoft Windows), z. B. MID-Startseite

Ein Hyperlink mit verborgener Adresse wird im Text in der Form `<<Text>|<Adresse>>` gespeichert. (Dies ist u. a. beim Bearbeiten von Texten mit Skripten zu beachten.)

Ein im Spezifikationseditor markierter Text wird als Vorbelegung für den sichtbaren Text verwendet.

Aus technischen Gründen darf sich ein Hyperlink nicht unmittelbar am Anfang eines Textes befinden. Ebenso sind zwei unmittelbar aufeinander folgende Hyperlinks nicht zulässig. In solchen Fällen werden alle im Text enthaltenen Hyperlinks auch unter Windows als Klartext in der Form `<<Text>|<Adresse>>` dargestellt.

Mit einem Klick auf den Hyperlink bei gedrückter [Strg]-Taste kann die Adresse angesprungen werden. Das Anspringen der Adresse ist auch von der HTML-Dokumentation und von Innovator Web aus möglich. Bei allen anderen Verwendungen der Texte wird die hinterlegte Adresse ignoriert.

Hyperlinks to a Model Element

You can use Innovator's URI[1] functions to jump from external applications, Innovator specification texts and a model element in the eXcellence model browser (if a corresponding hyperlink is available in this specification editor) directly to an Innovator model element of any model in an available Innovator repository.

The unidirectional reference technique based on URI has now been integrated into several Windows applications. You can insert references to model elements in Word documents, e-mails, presentations and editors, primarily as hyperlinks, and access addressed model elements in a targeted manner using these references.

URI is coded in UTF-8 as standard (e.g. space as %20). The aox type for a model reference has the following structure:

`aox:/Rep/Model Type/Model Name?sel=<ELElement ID>`

- `Rep` is the name of a (running) Innovator repository (server)
- `Model type` is the Innovator model type
- `Model name` is the name of the model
- `sel=<ELElement ID>` selects the entered element

Example:

`aox:/m3demo_de/BM14/Muster-Bank?sel=UCObject%203131`

The following prerequisites must be carried out before using URI hyperlinks:

- The external application controls how URLs are treated with its own URL handler
- The Innovator model's repository server which contains the element to be activated is available and running in the network
- The person using the function needs to be able to log-in to the model (this is normally always possible using the `Guest` user)
- The linked model element is (still) available in the model

A URL handler is installed in the Windows system upon installation of Innovator; this enables a number of standard applications to use the URI address of an Innovator model element. These include the Office product line from Microsoft and the standard Internet browser.

How to proceed

To create and use a URI hyperlink in einer externen Anwendung:

» Select the model element which you want to reference in the model browser or diagram.

» Select `Edit>Copy>Model Reference Ctrl+W`.
The model element's model reference is copied from the aox type onto the system's clipboard as a URL.

» Insert the URI from the system's clipboard into any external application as a hyperlink or address (Internet browser).
You can use the URI to jump in the model. When the hyperlink entered is triggered by the (application-specific) trigger, it tries to specify the model addressed in the URI and, if applicable, to open it and then

1. A uniform resource identifier (URI) is a compact string of characters used to identify an abstract or physical resource. URIs are used for designating resources (such as websites, other files, calling web services, as well as e.g. receiving e-mails) in the Internet.
A uniform resource locator (URL) is referred to as variety of a URI. URLs identify a resource by describing their primary access mechanism and where the resources are located in the computer network. The name of the URI model is normally derived from network protocols used here. Examples of this are http or ftp. As URLs display the first and most frequent type of URIs, the terms are often used synonymously. (Source: http://en.wikipedia.org/wiki/Uniform_Resource_Identifier or http://de.wikipedia.org/wiki/URL)

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to select the model element addressed in the model browser. If necessary, a log-in dialog appears which the user can use to log-in to the model.

(Certain Office applications have incomplete auto-correction and extend the first forward slash in a hyperlink with a second forward slash. In this case, you can manually extend addresses which follow using a wildcard for a server:

`aox://localhost/demo_en/UML/WebBanking?sel=...`

The //localhost component is resolved on the local computer as standard and ignored by Innovator when the address is evaluated.)

How to proceed

Um einen URI-Hyperlink mit verborgener Adresse zu erstellen und in einem Spezifikationstext zu nutzen:

» Selektieren Sie im Modellbrowser oder Diagramm das Modellelement, auf das Sie verweisen wollen.

» Wählen Sie `Edit>Copy>Model Reference Strg+W`.
Die Modellreferenz des Modellelements wird als URI vom Typ aox in die Zwischenablage des Systems kopiert.

» Platzieren Sie die Einfügemarke im Spezifikationstext an die Stelle, wo der Hyperlink eingefügt werden soll.

» Öffnen Sie mit dem Menübefehl `Edit>Hyperlink...` die gleichnamige Dialogbox und fügen Sie mit [Strg]+[V] den URI aus der Zwischenablage des Systems in das Feld `Adresse` ein.

» Geben Sie den anzuzeigenden Text im gleichnamigen Feld ein und bestätigen Sie mit `[OK]`.
Ein Hyperlink auf das Modellelement wird eingefügt und unter Windows als Hyperlink formatiert.

» Um zu dem im URI adressierten Element im Modellbrowser wechseln, klicken Sie bei gedrückter [Strg]-Taste auf den Hyperlink.
Alternativ platzieren Sie die Einfügemarke im Hyperlink und wechseln mit dem Menübefehl `Jump>Hyperlink` zum Modellelement.

» Von einem Modellelement im model browser bzw. Diagramm können Sie (bei Vorhandensein eines entsprechenden Hyperlinks in einem seiner Spezifikationstexte) mit dem Menübefehl `Jump>Hyperlink...` aus ggf. mehreren aufgelisteten Hyperlinks das gewünschte Sprungziel auswählen und so zum Modellelement wechseln.

How to proceed

To use the reference mechanism from a command line:

» Enter the model element's URI in the command line with the -U parameter, e.g. `inotree -U"aox:/demo_en/UML/WebBanking?sel=CLClassDia%206"` and confirm with [Enter].
The addressed model element jumps to the model browser.

Hyperlinks to a File

You can use hyperlinks to files which are available via the network (and are linked with an application for opening the file) in a model element's specification text.

How to proceed

To create and use a hyperlink on a file:

» Place the insertion point in the specification text where the hyperlink to a file should be inserted.
» Select `Edit>Insert Hyperlink...`.
The dialog box of the same name appears.
» Geben Sie im Feld `Adresse` die Adresse der Datei im UTF8-Code ein
oder
öffnen Sie die Auswahldialogbox mit einem Klick auf die Schaltfläche ..., wählen Sie sie aus und bestätigen Sie mit `[Öffnen]`.
» Geben Sie den anzuzeigenden Text im gleichnamigen Feld ein und bestätigen Sie mit `[OK]`
Ein Hyperlink auf die ausgewählte Datei wird eingefügt und unter Windows als Hyperlink formatiert.
» Klicken Sie unter Windows bei gedrückter [Strg]-Taste auf den Hyperlink, um die Datei mit der ihrem Dateityp zugeordneten Applikation zu öffnen. Alternativ platzieren Sie die Einfügemarke im Hyperlink und wählen Sie den Menübefehl `Jump>Hyperlink`.

Hyperlink to a Web Address

You can use hyperlinks to web addresses which can be opened in a standard Internet browser in a model element's specification text.

How to proceed

To create and use a hyperlink on a web address:

» Kopieren Sie die Web-Adresse, auf die Sie verweisen wollen, in die Zwischenablage.
» Place the insertion point in the specification text where the hyperlink to a web address should be inserted.

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» Wählen Sie `Edit>Hyperlink...`
Die gleichnamige Dialogbox erscheint.

» Fügen Sie mit [Strg]+[V] die Web-Adresse aus der Zwischenablage des Systems in das Feld `Adresse` ein.

» Geben Sie den anzuzeigenden Text im gleichnamigen Feld ein und bestätigen Sie mit `[OK]`.
Ein Hyperlink auf die Web-Adresse wird eingefügt und unter Windows als Hyperlink formatiert.

» Klicken Sie unter Windows bei gedrückter [Strg]-Taste auf den Hyperlink, um die Web-Adresse im Internetbrowser zu öffnen. Alternativ platzieren Sie die Einfügemarke im Hyperlink und wählen Sie den Menübefehl `Jump>Hyperlink`.

Hyperlinks ändern oder löschen

Befindet sich im Spezifikationseditor der Mauszeiger oder die Selektion auf einem Hyperlink, dann kann dieser mit `Edit>Hyperlink...` geändert werden.

Sie entfernen einen Hyperlink aus dem Text, indem Sie ihn vollständig selektieren und `Edit>Delete` auswählen.

C-2.3 Formatting and Preparing Text for Outputting in Documentation

You can enter formatting commands and other commands for outputting the element description in the documentation at a later date when entering text for element specifications. You can use dot commands for e.g. specifying formatting or integrating external objects, documents and graphics (see chapter C-8.1, "Using Dot Commands", page C-151).

Note **Each dot command always needs to be on its own line.**

Using the dot commands you can e.g.:

- Enter formatting commands (see page C-23)
- Integrate graphics and documents
- Integrate external objects (see page C-24)

So that the element specification texts are always up to date in the documents when it is outputted you can use variables (see page C-26). These wildcards are replaced by actual values when texts are integrated in documentation (see chapter C-8.2, "Parameters in Documentation", page C-158).

C-2.3.1 Formatting Text for Outputting in Documentation

You can use dot commands to enter formatting commands for outputting the element description in the documentation at a later date when editing text for element specifications in the main area of the specification editor. You can find a list of these commands in chapter C-8.1, page C-151.

Note

The effects made by these commands cannot be seen in the editor window.

Dot commands which you use for formatting text needs to be entered directly before the text to be formatted in its own line.

You can:

- Set paragraph formats (see chapter C-8.1.1, page C-151)
- Specify page breaks (see chapter C-8.1.2, page C-152)
- Specify text areas which should not be displayed in the documentation (see chapter C-8.1.3, page C-153)
- Convert special characters (see chapter C-8.1.4, page C-153)
- Edit enumerations (see chapter C-8.1.5, page C-153)
- Mark conditional text area (see chapter C-8.1.6, page C-154)

How to proceed

To enter a dot command for formatting at a later date in the documentation.

» Place the insertion point where the formatting should apply and create a new line.

» Enter the appropriate dot command in the new line.
The formatting command entered refers to the successive text passage. It is valid until you enter another dot command for formatting in another place.

C-2.3.2 Integrating Graphics

You can use dot commands to enter graphics for integrating the element description in the documentation at a later date when editing text for element specifications in the main area of the specification editor (see chapter C-8.1.8, page C-155).

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How to proceed

To integrate graphics:

» Place the insertion point in the text where the graphic should be integrated and create a new line.
» Enter the appropriate dot command in the new line.

C-2.3.3 Integrating Documents and Importing ASCII Files

You can use dot commands to enter documents and other applications for integrating the element description in the documentation at a later date when editing text for element specifications in the main area of the specification editor (see chapter C-8.1.10, page C-156) or for importing ASCII files (see chapter C-8.1.9, page C-156).

How to proceed

To integrate documents or import ASCII files:

» Place the insertion point in the appropriate place in the text and create a new line.
» Enter the appropriate dot command in the new line.

C-2.3.4 Integrating External Objects

You can use the dot commands `.object "<Data class>" [<Path Component>/]<Object name> ["<Component name>"] in the specification editor to`
Integrate an external object (see chapter C-8.1.11, page C-156). The dot command inserts the named external object of the given class at this point. The optional path component identifies the package which contains the external object. If a component's name is entered, only the data assigned to it is taken into consideration.

You can automatically create this entry in the specification editor.

How to proceed

To integrate an external object:

» In the main area of the editor window, place the insertion point in the line which you want the dot command to appear from for connecting external objects.

» Select Edit>Insert External Object....
The dialog box of the same name appears. The configured types for external objects are listed in the tree.

» Select the desired object type in the tree or enter one in the field Name.
The selection affects the column Name.

» Select the desired object in the column Name.

» Confirm the entry with [OK].
The dot command .object appears below the insertion point for the selected object in the main area of the editor window.

Opening External Application Files

You can open external application files which you integrated in the main area of the editor window using the dot command .object directly in the specification editor.

How to proceed

To open an external file's application:

» Place the insertion point in the line where the dot command is.

» Select Jump>To External Object.
The Innovator external object manager application (inoexo.exe) is started. The selected application which belongs to the external object starts automatically. You can work in this as usual.

C-2.3.5 Using Variables

You can work with variables in the element specification texts. These wildcards are replaced by a current value when a text is unlocked, text is integrated into documentation or when a structure chart is generated. Variables ensure that name changes also occur in the specifications.

You can use diverse variables in the various types of element specification texts. You can find a list of these available variables in chapter C-8.2, "Parameters in Documentation", page C-158.

In the Innovator Object and Innovator Business editions, you can use also variables to reference classes, attributes or methods. If these elements do not exist in the model yet, they are created.

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Using Variables

Enter the variables in the main area of the editor window.

How to proceed

If you want to use the variables:

» Open the appropriate element specification in the specification editor, as described on page C-9.

» Enter the desired wildcard.

To save the change:

» Select `Specification>Save`.

So that the variable will be replaced by its value:

» Unlock the element specification by selecting `Specification>Unlock`.

Using Wildcards for Class Models

A script is included in the scope of delivery of Innovator which can generate classes, methods and attributes for the class model from your element specifications. It searches through all specifications looking for certain wildcards. You can use the following wildcards:

- `inoref(c,"class name")`: creates a class called `class name`.
- `inoref(m,"method name@class name")`: Create a class called `class name` and a method called `method name`.
- `inoref(a,"attribute name@class name")`: Create a class called `class name` and an attribute called `attribute name`.

You can also enter a tangible package path for classes in `[package::package::]class name` format.

An use case's specification could be e.g.:

```
Students can log-in for an inoref(c,"lecture"). This happens by handing in a
form to the secretary which identifies the inoref(c,"Student") and the
lecture they want to attend. Whether the lecture will take place at all,
however, depends on the inoref(a,"Number of people who register@lecture").
The student is informed as soon as the secretary knows that the lecture is
actually going to take place.
```

C-2.3.6 Verifying Defaults for Element Specifications

An element type can be verified if it was assigned specifications for element specification which needed to be specified in the text and exists in < > format.

How to proceed

To verify the use of mandatory defaults for element specification:

» Select `Extras>Verify Modeling`.
This verifies whether specifications emerge in the specification or whether inaccurate specifications are specified. A message appears when the first discrepancy appears and the corresponding text area is marked.

C-2.4 Editing Specification Types

Various specifications can normally be stored as specifications for individual elements. These specifications are differentiated between by their "type". Each specification type is displayed as a tab in the main area in the specification editor's window (see page C-11).

C-2.4.1 Jumping Between Specification Types of Element Specification

You can jump between specification types when editing element specifications. This is done by clicking directly on the tab or clicking through the tabs with [Ctrl]+[Tab] or backwards with [Shift]+[Ctrl]+[Tab].

Note

You do not need to save your changes before jumping between the various specification types of an element specification. These changes are maintained until you close or save the respective element specification.

How to proceed

To open another specification type for the current element:

» Select the desired specification type in the dynamic list in the `View>Specifications><Specification Type>` menu item.
The current specification type is closed. The contents of the selected specification type is loaded in the main area of the editor window.

C-2.4.2 Creating and Modifying Specification Types for Elements

To create and modify specification types for elements, you need to jump to the model browser. To do this, you must be logged-in as administrator.

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Note **The settings made are valid for the current model. To transfer the settings to newly-created models, save them as configuration files using the** `Model>Configuration>Save Model Options...` **command.**

Creating and Modifying Specification Types for all a Model's Elements

If you are logged-in to the system as administrator, you can create new specification types for all of a model's elements.

How to proceed

To create a new specification type:

» If necessary, jump to the model browser.

» In the model browser, select `Model>Configuration>Specifications and External Objects...`.
The dialog box of the same name opens.

» Select the `tab Specifications`.
All of the current model's element types which you can enter specifications for are listed in the list box `Element type`. The number of specification types which are already defined for the respective element type is given in parentheses after each list entry.

Note **Specification types which you create for** `general` **element types apply for all elements in a model. The specification types created for** `general` **are not added to the amount of specification types which are entered in parentheses after the other element types.**

You cannot use names for the specification types of the element type `general` **for other element types.**

If you want to create another specification type for all elements in a model:

» Select the `general` element type in the list box `Element type`.
The names of all specification types which are already available for the `general` element type appear in the list box `Text list`. The name of the first specification type or the specification type which was selected in the list box `Text list` automatically appear in the list box `Text list` in the field `Name`.

» Enter the name of the new specification type in the field `Name`.
To include the new specification type in the list:

» Click on [Add]. Close the dialog box with [Close].
The new specification type is now available in all of the model's element specifications. It automatically appears in the specification editor in the list of menu items View>Specifications><Specification Type>.
You need to unlock and relock this specification editor so that the newly-created specification type also makes the element specifications which were opened during creation of the new specification type available during the running work session.

Specifying Specification Types for Outputting in Model Documentation

You can specify whether a specification type should be displayed in the model documentation.

How to proceed

To display a specification type in the documentation:

» In the model browser, select Model>Configuration>Specifications and External Objects....
The dialog box of the same name opens.
» Select the desired element type in the drop-down list of the same name.
» Select the desired specification type in the list box Text list.
» Activate the check box Documentation.

Note

If you put together the selection when creating the documentation template, you can specify whether all element specifications or only those which were explicitly specified for outputting in the documentation should be taken into consideration (see section "Including Element Specifications in the Selection", page C-69).

Creating Specification Types for Individual Element Types

You can also create specification types for individual element types in the dialog box Configuration/Specifications and External Objects.

How to proceed

To create a new specification type for an individual element type:

» Select the element type in the list box Element type which you want to create another specification type for.
» Proceed as described on page C-28.
» Close the dialog box with [Close].
The new specification type is now available in the element specification.

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C-2.4.3 Working with Text Modules

When creating or altering specification types, you can insert text modules in them; you can do this either by entering them or importing them from a template file. In this way you can e.g. set a grouping structure for the texts which are still to be entered (e.g. `general specification`, `flow` etc.).

Note **The text modules are valid in all the models and can, therefore, only be configured with administrator rights. They can be made up of text, wildcards or dot commands.**

The text modules are loaded into the main area when the specification type is called in the specification editor; they can then be edited by users.

Changes made to text modules carried out in the specification editor always only affect the contents of the respective element specification and do not have an effect on the general text modules; you can only edit these universally in the `dialog box Configuration/Specifications and External Objects`.

Creating or Importing Text Modules

If you create or change a specification type in the `dialog box Configuration/Specifications and External Objects`, you can enter text modules for it or import relevant data from an existing file.

Note **Text modules only affect new specification types, i.e. before these are edited for the first time. You cannot insert them into specification types which are already used at a later stage.**

How to proceed

To create a text module for a specification type:

» Open the `dialog box Configuration/Specifications and External Objects`, as described on page C-28.

» Select an element type which is assigned to the desired specification type in the list box `Element type`.

» Select the desired specification type in the list box `Text list`.

» Enter the desired text module in the text box `Default`.

» Confirm the entry with `[Change]`.
The text module entered is now inserted in the specification type and is called together with it.

How to proceed

To import a text module from another file for a selected specification type:

» Enter the name and path of the appropriate file in the field `File` or Click on `[Select]` to select the file whose contents should be imported as a text module.
The file's name and path component appear in the field `File`.
To import the contents of the selected file as a text module:
» Click on `[Reload]`.
The file contents is imported and appears in the text box `Default`. You can edit it here as much as required before assigning it as the specification type's text module. To import the contents as a text module in the specification type:
» Confirm the entry with `[Change]`.

Changing or Deleting Specification Types

As with element specifications, specification types need to be constantly maintained throughout the project. This means that specification types often have to be deleted or renamed. Sometimes whether a specification type should also be transferred in the documentation only emerges during the course of the work.

Note

The standard specification type `TEXT` is available for all element types. It cannot be deleted or renamed.

How to proceed

If you want to make changes to a specification type:

» Select an element type which is assigned to the desired specification type in the list box `Element type`.
» Select the desired specification type in the list box `Text list`.
There are now various options available.

Renaming Specification Types

You can rename selected specification types.

How to proceed

To rename a selected specification type:

» Change the name of the specification type in the field `Name`.
To adopt the new name:
» Click on `[Change]`.

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Listing Specification Types in Documentation

You can set whether the selected specification type should be listed in documentation generated at a later stage or not.

How to proceed

To change documentation for a selected specification type:

» (De)activate the check box `Documentation`.
To adopt the change:
» Click on `[Change]`.

Deleting Specification Types

You can delete selected specification types.

How to proceed

To delete a selected specification type:

» Click on `[Delete]`.
Another dialog box `Configuration/Specifications and External Objects` appears.
To confirm the deletion command:
» Click on `[OK]`.
The selected specification type is removed from the list of specification types.

C-2.5 Using External Editors for Element Specifications

You can also use another editor instead of the specification editor for creating element specifications. To do this, you need to integrate the desired editor in the Innovator environment and define it as an editor for element specifications.

The editor notepad can be used for entering texts when working with Innovator under Windows. Some additional functions are also available due to Innovator integration.

Note **To be able to integrate an external editor, you must be logged-in as administrator in the model.**

C-2.5.1 Creating Element Specifications in External Editors

If you want to create element specifications in another editor, you can integrate a conventional editor in the system in Innovator.

Integrating External Editors using Tcl Script

You integrate an external editor by assigning a Tcl script of the desired editor to the `specification` object type.

Note

If a Tcl script is not assigned to a `specification` object type, the specification editor is automatically available for editing.

The editor used in the Tcl script needs to be able to read and write in ASCII format. If you use a word processing system as an editor, you need to save the text in ASCII format without using character or paragraph attributes or anything similar.

How to proceed

To integrate an external editor:

» Jump to the model browser and log-in as administrator (see chapter A-1.2.1, page A-5).

» In the model browser, select `Model>Configuration>Specifications and External Objects...`.
The dialog box of the same name opens.

» Jump to the tab `External Objects`.

» Select the object type `specification` in the table in the column `Object type` or enter one in the field `Object type`.
To select a corresponding icon:

» Select it in the group box `Icon` in the drop-down list `Name`.
To enter the corresponding Tcl script:

» Select it in the drop-down list `Tcl script`.
To assign the script:

» Click on `[Change]`.
The Tcl script is now assigned to the `specification` object type. To leave the dialog box:

» Click on `[Close]`.
The desired editor can now be used for creating element specifications.

Saving Element Specifications in Integrated Editors

If you only open the editor to create an element specification (as described on page C-9), the dialog box `Element/Specification` appears. The editor starts and calls the element specification.

You can now edit and save the text as usual.

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How to proceed

So that the changes to the text will be adopted as an element specification for the relevant element in the respective repository:

» In the dialog box `Element/Specification`, click on `[Save object]`.

C-2.6 Using Editors Under Windows

As well as standard operations, the editor within Innovator uses additional functions, which are described over the following pages.

Note **In Innovator's editor functions, a "word" refers to a string made up of numbers, letters and underscore '_'. A "line" generally means a "hard" line up to the word-wrap which was explicitly entered using the [Enter] key.**

The following lists specify the operation's operating mode and the key combination which they can be accessed by.

Marking Text There are various options available for marking text.

How to proceed

To mark a word under the mouse pointer:

» Double-click with the left mouse button.

How to proceed

To mark the line which the insertion point is in:

» Triple-click with the left mouse button.

Deleting Text Innovator's editor offers various operations for deleting text within a line. The deleted text is saved in a special buffer unless a character is deleted. It can be reinserted when needed.

How to proceed

To delete a character below the insertion point:

» Press [Ctrl]+[F].

How to proceed

To delete a word from the insertion point to the right:

» Press [Ctrl]+[W].

How to proceed

To delete the line from the insertion point to the beginning or end of the line:

» Press [Ctrl]+[D] or [Shift]+[Ctrl]+[D].

How to proceed

To delete a line:

» Press [Ctrl]+[Z].

Buffering Operations

The editor uses an operation buffer; text entries and specific editing functions can be held here. You can subsequently execute the contents of this buffer as many times as necessary in the text.

Characters and functions will essentially be added to the buffer as long as entries which can be buffered are made.

If you make entries which cannot be buffered, the buffer procedure is completed. The contents of the operation buffer remains until you re-execute an entry which can be buffered.

Entries which can be buffered are:

- All characters which can be shown (letters, digits, parentheses etc.)
- The deletion operations introduced above
- [Backspace]

Entries which cannot be buffered are e.g.:

- [Ctrl]+[S]
- Movements with the arrow keys
- All confirmations using a mouse button

you can implement the operation buffer using the keyboard and mouse:

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How to proceed

To execute the buffered actions at the current insertion point:

» Press [Ctrl]+[S].

Inserting Word-Wraps with Indentations

A line can be wrapped at the insertion point and the indentation can be transferred to the next line.

How to proceed

To wrap a line at the insertion point and transfer the indentation to the next line:

» Press [Shift]+[Enter].

C-3 Creating Documentation Repositories

Specifications for model manuals are always stored its own repository–the documentation repository. Layout and structure are stored in this documentation repository, however, documentation content is not.

You can create a documentation repository in the documentation editor, which contains the documentation's overview tree and structure tree. To do this you need to:

- Create and open a documentation repository (see page C-37)
- Create a structure, i.e. specify a structure which forms the basis of your documentation (see page C-50)
- Connect this structure with a selection (see page C-66)

C-3.1 Creating Documentation Repositories

A documentation repository can contain templates for any model types. You will normally use the `inodocu.dr` documentation repository, which is included within the scope of delivery. However, if this is not suitable for your model documentation, create a new documentation repository first.

If you open a documentation repository you land in the documentation editor with the **overview tree** and the documentation's **structure tree**. You can then edit the model documentation's structure and layout there.

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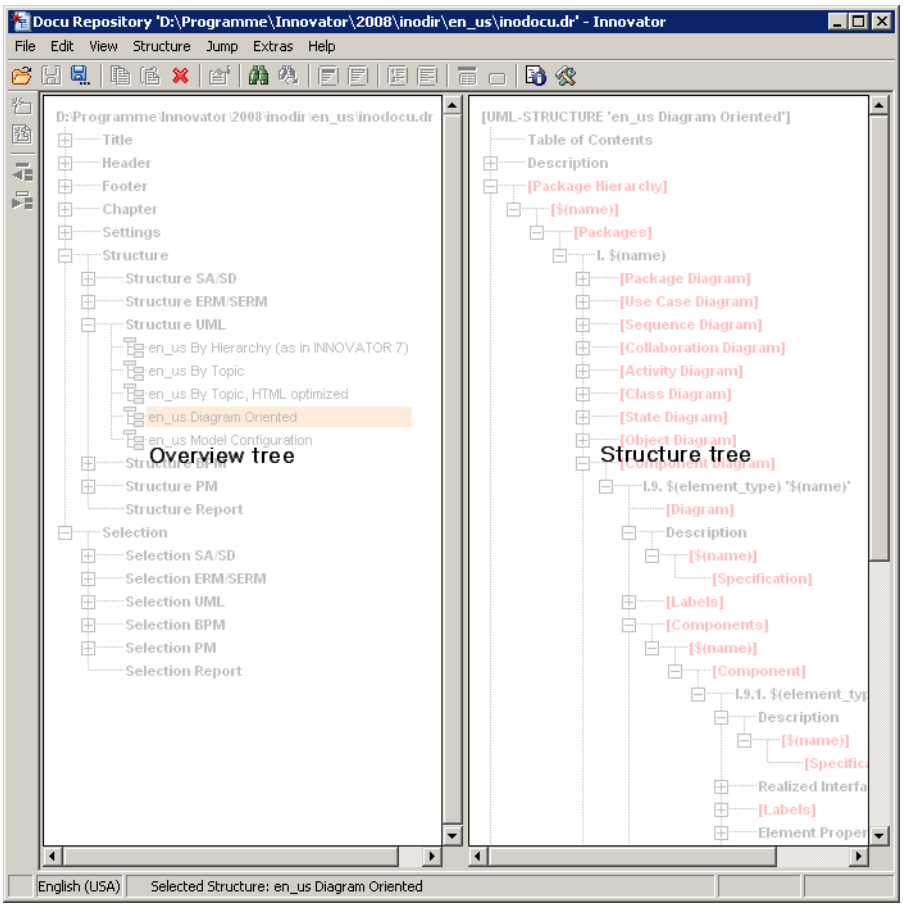

Documentation Editor with inodocu.dr Documentation Repository

C-3.1.1 Creating Document Repositories

All information which sets the layout and structure about the documentation to be generated is stored in the documentation repositories. These documentation repositories are basically created from the documentation editor. This means that the changes that you made during the session are first written in the documentation repository when you explicitly save the repository or close the main window.

Note **Documentation repositories have the `.dr` file name extension.**

Documentation repositories contain all information about:

- Title pages
- Headers
- Footers
- External chapters
- Structure trees
- Selections (combinations or modules as described above)

Note

As layout and structure are saved in a documentation repository, but the contents of a documentation is not, you can use the same repository for creating various documentations for various models.

Temporary Files for Documentation

If you open the documentation editor, only a **temporary file** is initially created; its name corresponds to the documentation repositories.

All changes which you make during a session are buffered in this temporary file. Its contents is continuously updated. The changes made are first written in the documentation repository when you save the documentation repository or leave the documentation editor. The temporary file is then deleted from the system.

Note

Temporary files have the `.dr_` file name extension.

The temporary files block access to the documentation repositories if more than one user is working in the documentation editor at the same time. They prevent prohibited multi access to the same documentation repository.

Back-Up Files for Documentation

If you open a documentation repository which is already available, the system creates a back-up file. This back-up file has the same name as the documentation repository.

Note

Back-up files have the `._dr` file name extension.

The documentation repositories's original contents is saved in the back-up file.

C-3.1.2 Opening and Calling the Documentation Repository

You will normally create your model documentation using an existing, unaltered template. You can also use the complete templates which are included in the scope of delivery for a model documentation named `inodocu.dr`.

You can open a documentation repository in the following ways:

A: Create a new documentation repository (see page C-37).

B: Open an existing documentation repository which is not currently being used (see page C-39).

C: Open an existing documentation repository which is currently being used and therefore has blocked access (see page C-41).

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D: Open another documentation repository from the documentation editor (see page C-42).

Creating or Opening Document Repositories

To set the documentation's structure, either create a new repository or open an existing one as the first step.

How to proceed

To create a documentation repository:

» Start the documentation editor.

» Select `File>Open...`.
The dialog box of the same name opens for you to enter or select the desired documentation repository.

» Enter the name (which has not previously been used) and complete path component of the documentation repositories to be created in the field `Docu repository`.

» Confirm the entry with `[OK]`.
The desired documentation repository is created and opened by Innovator.

How to proceed

If you want to select a documentation repository which already exists:

» Start the documentation editor.
The documentation editor is started with the documentation repository which was last opened. To open another documentation repository, select `File>Open...`.

» In the dialog box `File/Open`, click on `[Select]`.
The `Select Docu Repository` dialog box appears.

» Select the desired documentation repository and close the dialog box.
The name and path component of the selected documentation repositories are adopted in the field `Docu repository` in the dialog box `File/Open`. To open the documentation repository in the documentation editor:

» Confirm the entry with `[OK]`.
If the documentation repository is already being used, an error message appears (see page C-41).
If the documentation repository can be used, open the documentation editor. You can specify the structure of the documentation to be created (see page C-50) and connect it with a selection (see page C-66).

Opening Blocked Access Documentation Repositories

You can basically open documentation repositories which already exist if they have a temporary file, i.e. if they are currently being used by another user. You can view them in read-only mode and even edit them; if you edit them, however, the changes will not be stored in the same documentation repository.

Note

If an unexpected abort occurs due to a system crash or a power failure, the temporary files are not deleted from the system. You can reaccess the respective documentation repositories once you have manually deleted the temporary files from the system or renamed them.

If the selected documentation repository is already being used, access is blocked. A corresponding message appears in the dialog box `File/Open` if you want to open the documentation repository.

How to proceed

If you want to open or view the documentation repository in spite of the access block:

» Select the documentation repository which you want to view, as described on page C-40.

» Activate the check box `Write protected` in the dialog box `File/Open`.

» Click on `[OK]`.
The documentation repository is opened in the documentation editor. It can now be viewed and edited in this state. The changes made during this session are, however, not adopted in the documentation repository which is currently opened; they need to be saved in another documentation repository (see page C-42).

Releasing Documentation Repositories

You will probably not be able to access the documentation repository, as the temporary file could not be deleted from the system due to the work session being unexpectedly aborted–possibly due to a system crash or power failure.

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How to proceed

In this case, you can regain access to the documentation repository in the following ways:

» Manually delete the temporary file from the system.
It is in the same directory which has the same name as the corresponding documentation repository and can be recognized by its file name extension, `.dr_`. You do not need to close the dialog box `File/Open` to do this.
As long as the temporary file is not deleted:

» Confirm the documentation repositories's selection in the dialog box `File/Open` with `[OK]`.
The documentation editor opens. As described in the following chapter, you can specify the structure of the documentation to be created (see page C-50) and connect it with a selection (see page C-66).

Changing Documentation Repositories

You can only view one documentation repository in the documentation editor. If you already have the documentation editor open, you can close the template currently being worked on and call another one, as described on page C-43.

How to proceed

To open a new documentation repository in the documentation editor:

» Ensure that the documentation repository which is currently open has been saved. If necessary, select `File>Save`.

» Select `File>Open...`.

» The dialog box of the same name opens for you to select the desired documentation repository, as described on page C-40. This is called in the documentation editor and is available for editing.

Saving Changes in a New Documentation repository

If you have edited a documentation repository, you can save the changes made under another name. This is necessary if e.g. you have opened the documentation repository in a read-only state (see page C-41) In this case, you cannot store your changes in the documentation repository which is currently being edited by closing the documentation editor; you need to create a new one instead.

Note

In this way, you can create various templates from one documentation repository.

How to proceed

To store the changes in a new documentation repository:

» In the documentation editor, select `File>Save As...`.
  The `Select Docu Repository` dialog box appears.
» Enter the name of the new documentation repositories with the `.dr` file name extension, specify a target path and close the dialog box.
  The new documentation repository is created.

Documentation Repository

If you have made the desired changes in the documentation editor you need to save the documentation repository.

How to proceed

To save the documentation repository being currently edited:

» Select `File>Save`.
  The changes made are saved in the documentation repository.

Closing the Documentation Repository

Once you have made the desired changes in the documentation editor you need to close the documentation repository and go back to the model browser. Your entries are saved and stored in the documentation repository.

How to proceed

To edit the current documentation repository and close the documentation editor:

» Select `File>Exit`.
  The documentation repository closes. If you don't edit the file when it is in read-only mode and haven't saved changes before entering the command, an appropriate message appears.
  To save the changes:
» Click on `[Yes]`.
  The documentation editor closes and the changes made are saved in the documentation repository.

C-3.1.3 Influencing the Display and Operation Mode

As with other Innovator applications, you can organize the documentation editor (which is split into two areas) to a certain degree yourself and select your preferred operation mode.

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C-3.1.4 Getting to Know the Structure of the Overview Tree and Using Information

The documentation's overview tree is displayed in the documentation editor's left-hand side window. If shows all parts of the documentation which are created as standard or which were already created.

Getting to Know the Documentation Foundations

The overview tree in the documentation editor contains the following nodes:

- Default nodes which combine groups of similar nodes. A default node's subordinate nodes are either other default nodes or nodes.
- Nodes which you have created yourself and are components of the documentation.

The following default nodes and the nodes which are assigned to them can be seen in the overview tree as individual foundations of a documentation:

- `Title page`: all title pages which you make available as nodes in the documentation repository appear under this default node.
- `Header`: all headers which you make available as nodes in the documentation repository appear under this default node.
- `Footer`: all footers which you make available as nodes in the documentation repository appear under this default node.
- `Chapter`: all external chapters which you make available as nodes in the documentation repository appear under this default node.
- `Settings`: all settings which you entered for the index format appear under this default node.
- `Structure:` nodes appear as other default nodes for structuring various model types under this default node, i.e. various editions. You can create as many other nodes under these default nodes as required.
- `Selection`: nodes appear as other default nodes for selecting various model types under this default node. You can create as many other nodes under these for making selections as required–i.e. combinations of structure, title pages, headers, footers, as well as model-specific output options which you want to combine.

Using Information in the Documentation Editor

As with other Innovator interfaces, the documentation editor's title pages and status bars provide useful information.

The following can be seen in the window's title page:

- Name and path component of the open documentation repositories

The status bar in the overview tree's window of the documentation shows you the following information:

- The language specified by you (German or US English) which the new structures, headers and footers are created in
- If you have selected an external chapter, information about how often this chapter is used in the structure appears.
- If a structure is open, its name is displayed.

C-3.1.5 Specifying Languages for Documentation Output

As the first stage, set the language for the structures, title pages, headers and footers to be newly created. Specify which language should be used as pre-allocation for new nodes and also which language text outputs should occur in.

Specifying Languages

You can specify the language in the documentation editor.

How to proceed

To specify the language:

» Select the `Structure>Select Language...` menu item in the documentation editor.
The dialog box of the same name appears.

» Select the desired language in the list box `Language` and confirm it with `[OK]`.

Note

The language which is currently set is visible in the documentation editor in the status bar (see page C-44).

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C-3.1.6 Editing Default Nodes and Nodes

There are a wide array of options available to you in the overview tree for editing default nodes and nodes.

You can:

- Creating nodes
- Rename default nodes and nodes
- Copy nodes
- Delete nodes

Note **You can basically only delete nodes to external chapters if they are not opened for editing.**

You can find information about creating and editing title pages, headers and footers in the chapter C-7, "Organizing Documentation Layout", page C-133.

Creating Nodes in the Overview Tree

You need to create at least one node for structure and selection respectively when creating documentation in the overview tree in the documentation editor. Other nodes are optional.

How to proceed

To create a node:

» Select the default node which you want to create a node for.

» Select `Structure>New Entry...`.
A node is created with an automatically generated name of the type of the selected default node and is inserted beneath it in the overview tree. The name can be changed immediately afterwards.

Note **If you create a node under the default node `Selection`, you also need to enter the structure to be used (see chapter C-3.3, "Combining the Documentation Foundation in a Selection", page C-66).**

Renaming (Default) Nodes in the Overview Tree

You can rename both default nodes and nodes in the overview tree.

How to proceed

To rename a (default) node:

» In the overview tree, select the (default) node which you want to rename.

» Select Edit>Rename.

or

» Press [F2].
The node's name is highlighted.

» Change the name directly in the overview name and stop the change with [Enter].
If a node of this class already exists with the same name, an error message appears. Confirm this with [OK] and enter another name. Confirm the name change with [Enter].
The selected node appears in the overview tree with a new name.

Copying Nodes in the Overview Tree

You can copy nodes to facilitate creating and editing structures, selections, title pages, headers and footers (see page C-133). The copied node adopts the contents of the original node and is inserted on the same hierarchy level under the same parent node in the tree.

How to proceed

To copy a node:

» Select the node whose contents you want to adopt.

» Select Edit>Duplicate.
The copied node is given an automatically generated name and adopts the contents of the original node and is inserted under the same parent node in the tree.

If the check box Set properties after creation is activated, then the dialog box Edit/Properties is opened directly afterwards.

Deleting Nodes in the Overview Tree

You can delete nodes.

Attention

If you delete a structure's node in the overview tree, each selection which is used in the deleted structure tree is also deleted.

If you want to delete an external chapter it cannot be used in a structure tree or be opened for editing (see page C-56).

How to proceed

To delete a node:

» Select the node that you want to delete.

» Select Edit>Delete.
The dialog box of the same name appears.

» Click on [Yes] to confirm deletion.
The deleted node no longer appears in the overview tree.

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C-3.1.7 Incorporating External Chapters in the Documentation

External chapters are files which were not created in Innovator's specification editor and should be added in the documentation.

You can integrate, create and edit external chapters in the documentation using the documentation editor. You can use external chapters via the structure tree in the model documentation's structure (see page C-56).

Note **Dot commands which you use in external chapters overwrite layout settings which you come across in various dialog boxes (see page C-133).**

Editing External Chapters in the Overview Tree

As with other elements in the overview tree, you need to create a node for editing external chapters.

How to proceed

To create, edit and integrate an external chapter:

» If necessary, create a node in the overview tree under the default node `Chapter`, as described on page C-46.

» Select the node and select `Edit>Modify Content`.

An editor window appears; its functions are largely the same as those of the text editor (see page C-9). The name of the selected node and the complete path component appear in the documentation repositories's title bar. The status of the file which is currently open is given as either `Unaltered` or `Altered` in the status bar.

You can create text or insert text from other files using this editor window.

To edit text:

» Simply enter it in the editor window or edit the available text.

To insert the files' contents in the editor window:

» Place the insertion point where the contents of the desired file should be inserted.

» Select `Chapter>Insert from File...`.

To save the current contents of the editor window as an external chapter in the documentation repository:

» Select `Chapter>Save`.

Attention **The command `Chapter>Save` does not have the same effect as the command `Chapter>Save to File...` in the editor window. Lastly, store the text only as a file. The external chapter in the documentation repository is not affected.**

Deleting External Chapters

If you want to delete an external chapter it cannot be used in a structure tree or be opened for editing. Read about how an external chapter is used in a structure tree in more detail on page C-55.

How to proceed

To delete an external chapter:

» Select the external chapter in the overview tree you want to delete.

» Select `Edit>Delete`.
The dialog box of the same name appears.

» Click on `[Yes]` to confirm deletion.
If the selected chapter is already in use in a structure, an error message appears. This can then not be removed from the overview tree until it has been deleted from the structure.
To remove a message:

» Click on `[OK]`.
If the selected external chapter is not being used in any structure, it no longer appears in the overview tree after deletion has been confirmed.

Displaying Information about an External Chapter

Information about external chapters can be displayed in the documentation's overview tree. You can find out whether it is being used and in which structures. This is particularly important if you want to delete external chapters (see page C-49). To do this, you can call an information window which has headings which are assigned to the chapter; these are listed alphabetically according to their structure.

Note

If you select an external chapter in the overview tree, the `Number of References` specification in the documentation editor's status bar shows how often a selected external chapter is used in structures (see page C-44).

How to proceed

To call an external chapter's information window:

» Select the appropriate external chapter in the overview tree.

» Select `Extras>Information>Entry`.
An information window which contains the chapter's used in structures appears.
The structure type appears in square brackets after the alphabetically listed structure names. Chapter headings which are not shown in the structure tree appear in double square brackets.
Read how to use information about the structure in chapter C-3.2.3, page C-55.

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C-3.2 Setting Documentation Structure

Once you have opened the documentation editor, you need to create at least two nodes and edit them in the following way if you are creating documentation for the first time.

For each model type which documentation should be generated for, you first need to create (at least) one **chapter structure**, i.e. the **structure** which the model documentation should have as its basis.

A node exists for each element type as a structure point in a model type's structure trees. These nodes specify which information is contained in the documentation.

You can use the structure to specify, therefore, what degree of information should be included in the documentation. This structure is independent from the actual model data. Information from the model is first displayed upon creation of the documentation, corresponding to the structure, and converted into an output format (e.g. PostScript or XML) by the `in-odocu.exe` documentation generator (see page C-89).

You can combine various structures in one documentation repository for various documentation purposes.

After you have created at least one structure, you can create a mandatory **selection** depending on the model type (see page C-66). It forms the basis for the documentation process which you trigger from the model browser (see page C-81).

Note **Depending on which model types you have purchased a license for, you need to create nodes for the structures to be created under the default `Structure <Model Type>` node or use the example structure included in delivery.**

The PM model type applies to V-Model license owners.

You can also create other nodes for header, footers, title pages and additional external chapters in the overview tree, integrate them in the structure or link them with the selection. You can find more information about this topic in chapter C-7, "Organizing Documentation Layout", page C-133.

As soon as you close the documentation editor and save the changes made, the changes carried out are stored in the documentation repository.

C-3.2.1 Creating Structure Nodes and Opening the Structure Tree

One of the two mandatory requirements for generating documentation is the availability of a "structure", i.e. a structure for your model type. Once you have created title pages, headers and footers in the documentation's overview tree, made changes to the layout and contents in the previous

step, as described in C-7, "Organizing Documentation Layout", page C-133, it is obligatory to create the structure for the documentation type which you want to generate.

To do this you need to:

- Create at least one node for the structure in the **documentation's overview tree**, i.e. for the structure of the model type to be documented if one is not available.

and

- Create a structure in the **documentation's structure tree**. You can edit the contents of the structure using this tree.

Note

You can only set the structure if at least one node is available under a `Structure <Model Type>` default node in the documentation's overview tree.

The structure of the model documentation which you create in the structure tree has less to do with the layout as with the elements contained within the model documentation. You can specify:

- The position of the table of contents at the beginning or end of the structure
- Which structure point should be contained in the model documentation and which should not
- Which sub-points individual structure points should be subdivided into
- Which headings the structure points should have

Read how to specify the layout of your graphics in chapter C-7.3, "Editing Graphics Displays", page C-142.

Innovator provides a structure for model documentation, however, there are a wide variety of options open to you for making necessary changes.

Note

Structure trees are pre-allocated with default values. They are created in the language you set (see chapter C-3.1.5, page C-45).

Creating, copying and deleting a structure's nodes occurs as in the overview tree.

Creating a Structure's Nodes

If you want to create the structure for a type of documentation, the first thing you need to do is create a node for the appropriate documentation's.

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How to proceed

To create a node for editing:

» Select the `Structure <Model Type>` default node in the documentation's overview tree under `Structure` for the model type you want to document.

» Create the node as described on page C-46.

Opening Structure Trees

The next step is to open the structure tree for the node to edit the structure. You can use the structure tree to influence which elements should be taken into consideration in your model documentation. The structure tree appears with the last state of the selected structure in the window in the documentation editor on the right-hand side. The nodes on the default structure's levels 0 to 2 are visible for a new structure.

How to proceed

To open the structure tree for editing a structure:

» Select the structure's node which you want to edit in the documentation editor's overview tree under `Structure`.

» Select `Edit>Modify Content`.

The documentation's structure tree opens in the documentation editor's right-hand side window.

C-3.2.2 Getting to Know Default Structures Provided

The default structure which each structure is pre-allocated with after it is created is hierarchically structured. You can assign the various structure points to various levels to gain better comprehension.

- **Level 0:** level 0 is the root of the structure.
- **Level 1:** structured nodes can be found on level 1, such as:

  ```
  Table of contents
  Package hierarchy
  User
  Configured Element Properties
  Specification Definitions
  Templates
  ```

- **Level 2:** element nodes can be found on level 2. These are nodes which are designated a variable name, such as `$(name)`. These variables are replaced by the name of the current element upon documentation generation (see page C-89).

Example: You can find the `$(name)` node under the `Packages` nodes in the structure. The SA model to be documented contains the sub-packages `Package_1` and `Package_2`. In this case, a `Packages` chapter in the documentation contains the sub-chapters `Package_1` and `Package_2`.

The default structure which every newly created structure has is only made up of levels 0, 1 and 2. Nesting the structure, however, enables any amount of levels to be made. You can create these other levels by:

- Creating son levels (see page C-61)
- Inserting son nodes (see page C-61)
- Inserting structured chapters (see page C-57)
- Inserting external chapters on the first level; you can then attach other external chapters to these as sub-chapters (see page C-63)

The structure of the default structure is then specified with the example structure points.

Structure points are differentiated between in four ways:

- Text
- Graphics
- Lists (enumeration)
- Heading (without assigned texts, graphics or lists)

Note

The variables which appear in the headings are replaced in the documentation by the name or type of the element to be specified.

Independent of the model type, the default structure contains, among other things:

- `Structure`
  Shows the name of the current structure. `SA/SD`, `ERM/SERM`, `UML`, `UML 2`, `BPM`, `PM` or `Report` refer to the model type.
- `Table of contents`
  The documentation's table of contents (either at the beginning or end of the structure).
- `Verification`
  List of model verification messages
- `Description`
  List of specifications
- `Package hierarchy`
  Contents of the packages in hierarchical arrangement
- `Specification definitions`
  Definition of element specifications
- `Label definitions`
  Definition of labels
- `Configured Element Properties`
  List of element properties

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- `Model options`
  List of model options
- `User`
  List of users
- `User groups or roles`
  List of user groups or roles
- `Verification configuration`
  list of verification messages which are taken into consideration during documentation generation

Each default structure from the `Index` structure point is completed with an alphabetical directory containing all numbered components specified in the documentation.

Using Information about the Structure Tree

If a selection point is selected in the structure in the right half of the documentation editor, various information about its layout appears in the status bar. You can find information about assigning attributes in the chapter (see chapter C-7, "Organizing Documentation Layout", page C-133).

A `<+>` afterwards shows that the selected selection point's properties can be modified and a `<->` afterwards means that it cannot be modified.

Note

If you integrate edited selection points using the structure window in the documentation, these are automatically formatted as you set them to be in `Edit>Properties`. If the selection points have dot commands and variables, their formatting commands take priority over those in the dialog boxes.

The following information can appear in the status bar:

- Paragraph justification (for chapter text):
  - `Default`: chapter text with break and proportional font
  - `Unformatted`: chapter text with break and non-proportional font.
  - `Left/Centered/Right`: chapter text is left-aligned, centered or right-aligned.
  - `Both`: chapter text will be formatted as justified.
- Paragraph position (for graphics):
  - `Inline`: graphics are printed directly beneath the last text.
  - `Centered`: graphics are centered, followed by a page break
  - `Absolute`: graphics are shown with a fixed vertical position, followed by a page break
  - `Appendix`: graphics are printed as an appendix.
- Page break:
  - `Before`: page break before the selection point.
  - `After`: page break after the selection point.
  - `None`: no page break.

- `Before`, `After`: page break before and after the selection point.

C-3.2.3 Structure Information

You can access the following information (which is of a fundamental significance when editing the structure) in the structure tree:

- Documentation outline which shows all numbered selection points
- Use of External Chapters in Structures

Displaying Documentation Outline

You can view the outline of the hidden part of the model documentation which has been hidden by the structure tree in the documentation's structure tree. The numbered selection points of the corresponding documentation appear in an information window.

How to proceed

To view the outline:

» Open the desired structure's structure tree.

» Select `Extras>Information>Outline`.
An information window with the documentation's outline appears.

Displaying the Use of External Chapters

You can use the documentation's structure tree to learn about which external chapters can be used in the corresponding structure. All existences of external chapters for this structure are then listed in an information window. You can also find out which headings the corresponding chapters are using in the structure.

Note

Suppressed headings for structure points are displayed in square brackets in the structure tree. Suppressed subtrees (chapters) are displayed in italics and can be identified by an icon.

How to proceed

To learn about external chapters in the documentation's structure tree:

» Select `Extras>Information>Chapters`.
An information window appears which lists all external chapters used in the structure.

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Note **You can view information about the external chapters which are used in the structures in the documentation editor (see page C-49).**

The `Number of References` file in the documentation editor's status bar also shows how often a selected external chapter is used in structures.

C-3.2.4 Influencing Verification messages for Generated Documentation

You can view relevant criteria in the documentation for model verification in the structure tree.

You can set which verifications should be carried out for diagrams, tables and other objects and, therefore, be shown in the documentation.

Each documentation which is created using the current structure tree only contains verification messages which corresponding verify options were also selected for.

Note **You can also hide all verification messages for a model's elements of the same type by executing the `Structure>Subtree>Suppress` menu item for the affected verification's default selection point in the structure tree which should be used for the generation.**

How to proceed

To specify the desired verify options:

» Select `Structure>Select Verify Options...`.
The dialog box of the same name appears. You can select the element which has the verify options you want to view from a drop-down list.

» Select the element and click on `[Edit]`.
The appropriate verify options are listed.

» Select the verify options which should be shown in the documentation and confirm this with `[OK]`.

» Close the dialog box `Structure/Select Verify Options` with `[OK]`.

C-3.2.5 Specifying Selection Points and their Sequence

You can organize the structure in the documentation's structure tree according to your individual requirements and specify the documentation's information content. You can:

- Adapt the predefined structure (see page C-57)
- Create and resolve hierarchies (see page C-57)

- Hide headings (see page C-58)
- Hide default level selection points (see page C-60)
- Specify son levels (see page C-61)
- Insert external chapters (see page C-63)

Moving Selection Points

You can move both the default and sub-level selection points, including their refinements, as many times as required within the structure–however, only on the same level. In this way you can e.g. set where the table of contents should appear in the documentation.

Note

The table of contents can only be positioned at the very beginning or end.

How to proceed

To move a level's selection point including its refinements:

» Select the selection point in the structure tree which you want to move.
If you have selected the selection point, the mouse pointer appears as a double arrow.

» With the left mouse button pressed, move the selected selection point in front of the selection point which it should be inserted in front of in the structure.
The selected selection point is inserted in the new position in the structure tree together with its refinements.

Inserting Higher-Level Selection Points

You can refine the structure by inserting a new higher-level selection point in the structure tree.

Note

If you want to insert a selection point above various selection points, they all need to have the same parent.

How to proceed

To insert a higher-level selection point:

» Select the selection points in the structure tree which you want to insert the higher-level selection point above.
Select `Structure>Hierarchy>Insert Level...`.
The dialog box of the same name appears.

» Enter the name of the selection point to be inserted in the field `Name`.

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» Confirm your selection with [OK].
The new selection point is inserted above the selected selection points in the structure. All of the selection points of the subordinate levels are moved down a level.

Deleting Selection Points without Refinements

You can delete individual selection points which were previously inserted in the structure tree so that their sub-points are preserved. The selection points subordinate to the selection point are then moved down a level.

How to proceed

To delete an individual selection point:

» Select the appropriate selection point in the structure tree.
Select Structure>Hierarchy>Resolve Level.
The dialog box of the same name appears. If the deletion control is activated, you will get a message.
To confirm the deletion command:

» Click on [Yes].
The selection point is deleted from the structure tree. All of the selection points of the subordinate levels are moved up a level.

Deleting Selection Points Including Refinements

You can delete selection points including all their refinements.

Attention

Ascertain whether you want really to delete all of the selection points of the subordinate levels with the selected selection point.

How to proceed

To delete a selection point including its refinements:

» Select the selection point in the structure tree which you want to delete along with its refinements.

» Select Edit>Delete.
The dialog box of the same name appears.
To confirm the deletion command:

» Click on [Yes].
The selection point and its refinements are deleted from the structure tree.

Suppressing Headings

You can suppress a selection point's heading so that it is not included in the documentation. The command has different effects depending on what type of selection point it uses.

- The contents appears without a heading in the documentation for external chapters, chapters with graphics or text content.
- The chapter with the suppressed heading and all sub-chapters contained within it are moved up to the position for structured chapters and chapters with variables in the heading.

The chapter's headings "Index", "Table of Contents" and "Verification cannot be suppressed.

Note

The command is only executed for multiple selection if the action can be applied to at least one heading.

How to proceed

To suppress a selection point's heading:

» Select the desired heading.
» Select `Structure>Heading>Suppress`.
or
» Select `Edit>Properties`.
» Jump to the tab `Paragraph Format`.
» Activate the check box `Suppress heading`.
» Confirm the entry with `[OK]`.
The suppressed heading is displayed in [square brackets].

Displaying Suppressed Headings Again

You can display a selection point's suppressed heading again and, in doing so, re-include it in the documentation.

Note

The command is only executed for multiple selection if the action can be applied to at least one heading.

How to proceed

To display a selection point's suppressed heading again:

» Select the desired heading.
» Select `Structure>Heading>Unsuppress`.
or
» Select `Edit>Properties`.
» Jump to the tab `Paragraph Format`.
» Deactivate the check box `Suppress heading`.
» Confirm the entry with `[OK]`.
The selected heading no longer appears in [square brackets] and is included in the documentation.

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Hiding Selection Points

So that the a selection point in the default level, including its refinements, is not included in the documentation, you need to hide or delete it in the structure tree (see page C-58).

Note **The command is only executed for multiple selection if the action can be applied to at least one subtree.**

How to proceed

To hide a selection point:

» Select the selection point's root node which you want to hide in the documentation.

Select `Structure>Subtree>Suppress`.

or

» Select `Edit>Properties`.

» Jump to the tab `Paragraph Format`.

» Activate the check box `Hide chapter`.

» Confirm the entry with `[OK]`.

The node's name appears in italics. Nodes can be identified by an icon. The generated chapter of a selection point hidden in this way does not appear in the documentation.

Showing Selection Points Again

You can show a hidden selection point again so that it is reincorporated in the documentation.

Note **The command is only executed for multiple selection if the action can be applied to at least one heading.**

How to proceed

To show a hidden selection point again:

» Select the hidden selection point's node.

» Select `Structure>Subtree>Unsuppress`.

or

» Select `Edit>Properties`.

» Jump to the tab `Paragraph Format`.

» Deactivate the check box `Hide chapter`.

» Confirm the entry with `[OK]`.

The hidden selection point is shown and appears in the documentation again.

Copying Selection Points

You can copy selection points under a variable node and insert them again under another variable node.

How to proceed

To copy a selection point:

» Select the variable node which contains the desired subtree.

» Select `Edit>Copy`.

To insert the subtree under another variable node:

» Select `Edit>Paste`.

The copied subtree is inserted. The output node's sons which are not permissible as the target node's sons are removed during this process.

Creating Son Levels with All Son Nodes

If you want to get more information about the model elements contained within a selection point in the documentation, further son nodes need to be created. For simple procedures, all available model elements which belong to a selection point are inserted on a son level as son nodes in the structure and can then be processed further.

How to proceed

To create a son level in a selection point:

» Select the selection point in the structure tree.

» Select `Structure>Sublayer>New`.

The son level with all available son nodes is inserted in the structure tree. You can now further process the individual son nodes as usual.

Creating Son Levels with Selected Son Nodes

You can create son levels with selected son nodes for individual selection points. You can also specify whether these should appear as

- Hidden (not available for the documentation) (see page C-60)
- Hidden (without heading) (see page C-58)
- Expanded (with displayed grandsons)
- Numbered

in the structure tree.

How to proceed

To specify the son nodes for one of the son levels to be created:

» Select the selection point in the structure tree which the son levels should be created for.

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» Select Edit>Properties.
The dialog box of the same name opens.

» Jump to the tab Child Nodes.
All son nodes which are available for the selection point are listed in the list box Available child nodes.
You can find information about the contents of individual son nodes in the info field Description.
If you want to include all available son nodes in the son level:

» Click on the [>>] button.
All son nodes in the list box Available child nodes are transferred to the list box Selected child nodes; in doing so the son levels are also transferred in the structure tree.
If you only want to transfer particular son nodes in the son level:

» Select the desired son nodes in the list box Available child nodes.

» Click on [>].
The selected son nodes are transferred to the list box Selected child nodes; in doing so the son levels are also transferred in the structure tree.
If you want to use entries repeatedly as son nodes, activate the check box Allow duplicate entries.

Now set how the son nodes should appear in the structure tree.

How to proceed

If the selected son nodes should be hidden, expanded or numbered in the structure tree:

» Activate the check box Hidden, Hidden, Expanded or Numbered in the group box Create options.

» Confirm your selection with [OK].

Deleting Son Levels with All Son Nodes

You can delete a selection point's son levels with all son nodes.

How to proceed

To delete the entire son level in a selection point:

» Select the selection point in the structure tree.

» Select Structure>Sublayer>Delete.
If the deletion control is activated, you need to confirm the deletion in a message dialog.

» Confirm the entry with [Yes].
The son level with all available son nodes is deleted.

Deleting Selected Son Nodes from Son Levels

You can specify only certain son nodes to be removed from the son level.

How to proceed

If you want to remove individual son nodes from the son level:

» Select the son node in the structure tree and select `Edit>Delete`.
or
» Select the selection point with the son levels which contain the son nodes you want to remove.
» Select `Edit>Properties`.
The dialog box of the same name opens.
» Jump to the tab `Child Nodes`.
» Select the appropriate son nodes in the list box `Selected child nodes` and click on `[<]`.
The selected node appears in the list box `Available child nodes`.
If you want to remove all son nodes from the son level:
» Click on `[<<]`.

Setting Filters for Selection Points

You can set filters for a selection point. This means that this chapter will only be included for the model elements in the documentation which correspond to the filter. You can create documentation of varying detail for various package types in doing so. The filter type is dependent on the selection point. This is normally a stereotype value.

How to proceed

If you want to set a filter for a selection point:

» Select the selection point in the structure tree.
» Select `Edit>Properties`.
The dialog box of the same name opens.
» Jump to the tab `Name`.
» Enter an appropriate value in the group box `Filter` in the field `<Filter>`.
» Click on `[OK]`.

Inserting External Chapters on the Same Level

You can assert additional external chapters (which you previously created as nodes in the overview tree) in the documentation's structure tree (see page C-48). In this way, you can integrate the contents of an external chapter and your documentation. In doing so, you avoid external chapters being deleted in the overview tree in the documentation editor (see page C-49).

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Note **You can only insert external chapter on the first level of the default structure or before and/or after an external chapter which has already been inserted.**

You can link various external sub-chapters to an external chapter (see page C-64).

How to proceed

To insert an external chapter:

» Select one of the following entries in the structure tree, before, after or below which the corresponding chapter should be inserted:
- Selection point on the default structure's first level
- An external chapter which has already been inserted on the first level
- Chapter on an external chapter's lower level.

» Select `Structure>New Entry...`.
The dialog box of the same name opens.
The external chapters available which you created in the documentation's overview tree are offered to you in the drop-down list `Name`.

» Select the desired chapter in the drop-down list `Name`.
You can set whether the desired chapter should be inserted in the group box `Where` before or after the selected chapter. To specify the chapter's position in the structure tree:

» Activate one of the junctions `Before`, `After` or `Below` in the group box `Where`.

» Confirm your entry with `[OK]`.
Depending on which setting you made in the group box `Where`, the selected chapter is inserted before or after the selected selection point in the structure.

Linking Sub-Chapters

You can also link other external chapters to an external chapter as sub-chapters in the structure tree. There are two ways to proceed:

- Insert an external chapter as a structured chapter in the structure tree.
- Insert an external chapter in a subordinate position in the structure tree.

How to proceed

To insert an external chapter as a structured chapter in the structure tree:

» Select the external chapter in the structure tree you want to attach as a sub-chapter to a newly-inserted chapter.

» Select `Structure>Hierarchy>Insert Level...`.
The dialog box of the same name opens.

» Enter the desired chapter which should be inserted above the external chapter selected in the structure tree in the field `Name`.

» Confirm your entry with [OK].
The external chapter is linked a level above the selected chapter in the structure. All of the chapters of the subordinate levels are moved down a level.

How to proceed

To insert an external chapter to a subordinate position in the structure tree:

» Select the desired chapter in the structure tree you want to link a subchapter to.
» Select Structure>New Entry....
The dialog box of the same name opens. The external chapters available which you created in the documentation editor's overview tree are offered to you in the drop-down list Name.
» Select the desired chapter from the drop-down list Name.
» Activate the option button Below in the group box Where and confirm your entry with [OK].
The new chapter is inserted as the first refinement under the selected chapter in the structure tree.

C-3.2.6 Changing the Sort Order

You can set which order the element types should be generated in under the various selection points for the entire structure. You can individually change this order for individual selection point using a local sort order.

Read what sort criteria you can create for the entire documentation in chapter C-3.4.1, "Specifying the Sort Order of Elements", page C-70.

Note

Depending on the selection point selected, not all junctions are available for the local sort order.

How to proceed

To individually change the sort order for a selection point:

» Select the selection point in the structure tree whose sort order you want to change.
» Select Edit>Properties.
The dialog box of the same name appears.
» Jump to the tab Paragraph Format.
» Activate the check box Local sort order.
The radio buttons in the group box Local sort order are activated.

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» Activate the alternative in the group box `Local sort order` which should apply for the sort order of the selected selection point.

» If you want the sort order to go in the other direction, activate the check box `Reverse sort order`

» Confirm your selection with `[OK]`.
The sort order specified for the entire documentation (see page C-70) is canceled for the current selection point and replaced by the local sort order.

C-3.2.7 Saving Structures

After you have created the documentation's structure you can carry out the next step. The changes in the structure are retained if you leave the window with the structure tree and continue working in the documentation's overview tree.

You need to save all changes which you make in the structure tree and documentation editor to be able to incorporate them into the documentation. If you close the documentation editor and changes to the content have been made, a corresponding dialog appears for you to save your changes.

How to proceed

To save the structure changes in the documentation repository:

» After editing, select `File>Save`.
or

» Close the documentation editor (see page C-43).

C-3.3 Combining the Documentation Foundation in a Selection

After you have put the model documentation's structure together, as previously described, if creating documentation for the first time, it is obligatory to create a selection in the next step, as long as you do not use a selection from the example repository included within the scope of delivery. A selection represents a set of properties which you put together from the variants of the elements in the overview tree. These include:

- The structure elements:
  - Title page
  - Headers and footers
  - Structure
  - Formats for index entries

- Text selection
- Model-specific output options

Note

Assignment of title pages, headers and footers, as well as formats for index entries is optional.

This is how you put together the documentation repositories's foundations in the selection. You can use all selections which are defined for the documentation type in the documentation template (see section "Changing Input Parameters", page C-75).

C-3.3.1 Creating a Selection and Linking it with a Structure

When editing a model-specific selection, you first need to create a node for the desired selection and link this with the desired structure which you created in the previous step.

Note

As you can optionally make various structure elements and other diverse model-specific specifications when creating a selection, it is often simpler to duplicate a selection which is already available and essentially contains the necessary specifications (see page C-47), rather than creating them as new.

Creating Nodes for the Selection

If you create a node for a selection you need to enter the structure which you want to use (see chapter C-3.2, page C-50).

How to proceed

To create a selection as a node:

» Mark a `Selection<Model Type>` default node for the model type you want to document.

» Select `Structure>New Entry...`.
The dialog box of the same name opens.

» Enter the name of the selection template in the field `Name`.
All structures for the model type which you have already created for this model type are offered in the drop-down list `Structure`.

» Select the structure in the drop-down list `Structure` which you want to use for your documentation.

» Confirm your entry with `[OK]`.
The selection node is inserted a hierarchy level below the `Selection<Model Type>` default node in the overview tree.

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Note **By creating the structure and selection you have competed the necessary steps for generating model documentation. Further creation and editing of other structure elements etc. is optional.**

If you do not want to specify or edit any other structure elements for selection and generate documentation:

» Select `File>Save` or close the documentation editor (see page C-43).

You entries are stored in the documentation repository. You can now continue with generating the documentation, as described in chapter C-4.3, page C-81.

C-3.3.2 Specifying Tangible Templates for Documentation

When creating a selection template, you need to have already linked this with a structure (see page C-46). In the next step you can set which other tangible templates you want to use for title pages, headers, footers etc.

Other variants can be offered for each documentation foundation (title page, header, footer etc.) in a documentation repository. You can now set which of these variants you want to use for your tangible model documentation using the selection (see chapter C-7.1, "Editing Title Pages, Headers, Footers, Headings", page C-133).

Including Title Pages, Index Entry Formats, Headers and Footers in the Selection

Whereas it is mandatory to enter a structure for a selection, specification of which title page, which format for index entries or which headers and footers are used in the documentation is optional.

Note **For the three areas main text, table of contents and appendix, you can include your own headers and footers respectively when making the selection.**

Depending on how many variants you created for the individual foundations in the documentation editor, there are various combination options available.

How to proceed

To include title pages, headers and footers in the selection:

» Select the selection node which you want to edit in the documentation editor's overview tree under the default node `Selection<Model Type>`.

» Select Edit>Properties.
The dialog box of the same name appears.

» If applicable, go to the tab General.
The name of the selection selected appears in the field Name.

» Jump to the tab Layout.
The foundation's variants which were already created for the model are offered in the drop-down lists (see page C-133). Each of the areas, contents, main section and appendix has a drop-down list for headers and footers.
The structure which you linked with the selection when the node was created is offered in the group box Main text in the drop-down list Structure. The current model type's structures which were already created for the model are offered in the drop-down list (see page C-50).

» Check whether the selection is linked with the correct structure.

» Select a template from the drop-down list for each of the individual fields:
- In Title, the desired title page
- In the TOC, Main text and Appendix groups, the desired header or footer for the main section, table of contents and appendix
- In Settings, the desired format for the index entries.

To confirm your entries:

» Click on [OK].
The dialog box Edit/Properties closes, the changes are applied.

Including Element Specifications in the Selection

You can also specify which of the texts which you created in the specification editor for the current model should be included in the documentation. You can select that:

- All element specifications created for the respective model should be included (see chapter C-2, "Specifying Elements", page C-9)

or

- Only the element specifications which you explicitly set to be taken into consideration in the documentation should be included (see section "Specifying Specification Types for Outputting in Model Documentation", page C-29)

How to proceed

To make the specification selection:

» Select the corresponding selection nodes which you want to edit.

» Open the dialog box Edit/Properties, as described above.

» Jump to the tab General.
To include all the specification texts created in the selection:

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» Activate the option button `Complete` in the group box `Texts`.
To only include the texts explicitly configured:
» Activate the option button `Configured` in the group box `Texts`.
To confirm your entries:
» Click on `[OK]`.

The dialog box `Edit/Properties` closes, the changes are applied.

Including Labels in the Selection

You can also specify which labels should be included in the documentation. You can select that:

- All labels created for the respective model should be included

  or

- Only the labels which you explicitly set to be taken into consideration in the documentation should be included

How to proceed

To select the labels:

» Select the corresponding selection nodes which you want to edit.
» Open the dialog box `Edit/Properties`, as described above.
» Jump to the tab `General`.
To include all the labels created in the selection:
» Activate the option button `Complete` in the group box `Labels`.
To only include the labels explicitly configured:
» Activate the option button `Configured` in the group box `Labels`.
To confirm your entries:
» Click on `[OK]`.
The dialog box `Edit/Properties` closes, the changes are applied.

C-3.4 Influencing Model Data Output

You can use the selection template (see page C-66) to set how the model data which is to be collected later during documentation generation should be processed in the documentation.

C-3.4.1 Specifying the Sort Order of Elements

For the current selection, you can set which order the element types should be documented within their respective chapter.

There are up to four possible sort criteria available for ordering diagrams, processes etc.:

- Alphabetical
- User defined
- Creation time
- Modification time

You can also set elements–according to the sort criteria–to be listed in reverse order.

Note

You can find out how to cancel and replace the sort criteria selected here for the documentation's individual selection points in section "Changing the Sort Order", page C-65.

How to proceed

To set the general sort criteria of elements for documentation:

» Select the desired selection nodes in the overview tree.

» Select Edit>Properties.
The dialog box of the same name appears.

» Jump to the tab Sorting.

» Set the sort criteria using the junctions in the group box Sort in order of. To reverse the order, activate the check box Reverse sort order.
To confirm the entries and close the dialog box:

» Click on [OK].
The changes are applied.

Converting Notations

When selecting various model types, you can set whether notations, in texts specified by model components, in the <x name> or [x name] form should be converted into the name form when printed.

How to proceed

So that the <x name> or [x name] form's notations are converted:

» Select the desired selection nodes in the overview tree.

» Select Edit>Properties.
The dialog box of the same name appears.

» Jump to the tab General.

» Activate the check box Remove reference markers.

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» Close the dialog box with [OK].
The changes are applied.

C-4 Configuring Model Documentation

You can use various templates which are included in the delivery with Innovator for documenting your models.

The documentation templates are based on a selection within the documentation repositories and on options by and large regarding selection within the model and documentation output, as well as generating and post-processing of information files. The selection contains specifications for documentation layout (particularly the title, header and footer), sorting and structure (method-specific specification of structure and representation of the model elements to be documented).

You can copy templates and configure them according to your needs to create individual documentation templates.

The documentation templates are stored as a section in the `inodocu-conf.ini` file in the `$INODIR` or `$HOME` directory and can also be loaded from there.

To configure a model's documentation or an extract from a model, you need to:

- Modify an existing documentation template (see page C-73)
- Set the documentation size (see page C-78)

You can then generate information files (see page C-81). You can use these information files if you want to create documentation in various formats (see chapter C-5, "Creating Model Documentation with the Documentation Generator", page C-89).

Note

The information files contain status information about the model which was achieved at the time of generation. They consequently represent a snapshot of the model development. Once the information files have been created, changes made to the model do not emerge in the documentation.

C-4.1 Using Existing Documentation Templates

You can use the model-specific documentation templates you created for documentation generation. The group of settings which can be configured upon generation is called a documentation template. This sets, among oth-

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er things, the output format and the documentation selection to be used. Documentation templates can be edited in the model browser and used for creating documentation.

You can:

- Document a model with an existing template
- Modify an existing documentation template's properties

C-4.1.1 Documenting a Model Using an Existing Template

In most cases you will be able to document a model using an existing documentation template.

How to proceed

To create a model documentation with an existing documentation template:

» If necessary, jump to the model browser and select the model elements you want to document.

» Start the documentation generation with `Model>Documentation><Documentation Template>`.

C-4.1.2 Changing an Existing Documentation Template's Properties

You can modify the documentation templates to customize the documentation to suit your needs.

How to proceed

To change an existing documentation template's properties:

» If necessary, jump to the model browser and select `Extras>Customize>Documentation Templates...`.
The dialog box of the same name appears.

» Select the documentation templates which you want to edit in the list box `Available documentation templates`.

» Click on `[Properties...]`.
The dialog box `Properties of <Documentation template>` appears.

» Jump to one of the tabs and make the desired changes.

» Click on `[Apply]` to adopt the settings.

» Click on [Execute] to adopt the settings and generate model documentation with them.
  If you do not want to generate the documentation now or don't want to make any further settings, click on [Close].

The following section describes how to make settings in the individual tabs.

Changing Input Parameters

The inodocu.dr documentation repository, included within the scope of delivery, is offered as default when the dialog box in the field Repository is first accessed.

How to proceed

To select the desired documentation repository:

» Select the tab Input Arguments.
» Enter the documentation repository using the complete path in the field Repository.
  or
» Click on [...].
  The Select Docu Repository dialog box appears.
  Specify the desired documentation repository and click on [Open].
  The name and complete path of the selected documentation repositories appear in the field Repository.

The documentation repository specifies the Selection drop-down list, as these selections are defined in it.

How to proceed

To specify which selection from the documentation repository selected above you want to use:

» Select the documentation repositories's desired selection in the drop-down list Browse.
» Click on [Apply] to adopt the settings.

You can also set a search for selection specification as an input argument. All searches defined for the model type in the inofind.ini file are available for selection.

How to proceed

To specify whether you want to use a search for selection specification and which one:

» Select the desired search in the drop-down list Use search.
» Click on [Apply] to adopt the settings.

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Changing a Documentation Template's Output Format

Innovator supports the following output formats during documentation generation:

- Docu repository
- Preview window (standard)
- ASCII text document
- XML file
- Word for Windows document
- PostScript document

Read chapter C-5.3, "Selecting Output Types", page C-99 for more information about using this output format.

The `Docu Repository` output format only enables information files which can be used by the `inodocu.exe` documentation generator to be generated in another step as an input repository. It is sensible to carry out this procedure if you want to generate lots of different output formats with exactly the same input data.

Read chapter C-4.3, "Generating Information Files", page C-81 for more information about generating information files.

Read chapter C-5, "Creating Model Documentation with the Documentation Generator", page C-89 to find out more information about generating various documentation formats from information files.

How to proceed

To change a documentation template's output format:

» Open the dialog box `Properties of <Documentation template>`, as described above.

» Jump to the tab `Output Format`.

» Select the output format in the drop-down list `Kind of output`.
For the `Word for Windows Document`, `ASCII Text Document` and `XML` output formats, you can select a graphic format from the drop-down list of the same name.

» You can enter a name and a director for the information files in the field `Name of information files`. This is a good idea if you want to use the information files as input repositories for the `inodocu.exe` documentation generator (see C-5, "Creating Model Documentation with the Documentation Generator", page C-89).

» Enter the directory which the output format's result files should be stored in in the field `Directory for output files`.

Note **This field is not active for the docu repository output format.**

» If you have selected the `preview window` as the output format, you can select a printer for outputting the edited preview if applicable.

» Click on [Apply] to adopt the settings.

Options for Setting Documentation Generation

For documentation templates you can select options for documentation generation.

You can find information about individual options in the chapter C-5.1.2, "Using Documentation Generator Parameters Under Windows", page C-91.

How to proceed

To set options for documentation generation:

» Open the dialog box Properties of <Documentation template>, as described above.

» Jump to the tab Generation Options.

» Activate or deactivate the appropriate check boxes.

» Click on [Apply] to adopt the settings.

Setting Post-Processing Parameters for Documentation Generation

You can set which actions should be carried out once generation is complete in a documentation template.

Read chapter C-5.3, "Selecting Output Types", page C-99 for more information about using post-processing parameters for individual output formats.

How to proceed

To set post-processing parameters for documentation generation:

» Open the dialog box Properties of <Documentation template>, as described above.

» Jump to the tab Postprocessing.

For XML output format, you can select a stylesheet in the group box XSL transformation which effects a transformation e.g. in an HTML or PDF file.

For the PostScript Document, Word for Windows Document, ASCII Text Document and XML output formats, you can specify a command and its arguments in the group box Post-processing command. The command is automatically carried out upon documentation creation, whereas the created output file will also be implicitly transferred as the first argument alongside the arguments entered in the field Arguments. This enables e.g. Word to be automatically called for the generated output file. You can call Tcl scripts using the inotcl -f <script name> command.

For the Word for Windows Document and XML output formats, you can specify when this document should be opened in the group box Open result.

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» Click on [Apply] to adopt the settings.

Storing Tcl Scripts for Database-Dependent Outputs

You can store a Tcl script for database-dependent outputs in ER/SER data models.

How to proceed

To store Tcl scripts for database-dependent outputs:

» Open the dialog box Properties of <Documentation template>, as described above.

» Jump to the tab ERM/SERM.

» Enter the appropriate script including the complete path in the group box SQL Tcl script in the field Command or select one from the drop-down list.
You can limit the drop-down list using a name pattern.

» Enter the relevant arguments in the field Arguments.

» Click on [Apply] to adopt the settings.

C-4.2 Setting Documentation Size

There are various ways to influence the size of the model documentation:

A: Use a structure which does not take specific aspects into consideration in the documentation (see chapter C-3.2.5, "Specifying Selection Points and their Sequence", page C-56).

B: Create a documentation outline (documentation extract).

C: Only enter certain elements which the documentation should be created in in the model browser.

D: Set whether the model should be documented from the smallest common package.

C-4.2.1 Creating Documentation Extract

You can set whether your model should be completely documented or–e.g. for test purposes–whether you only want to create an outline of the model documentation. The outline does not e.g. account for cancelations by the tailoring.

Note

The outline results in problems with the verifications and cross references, as these can no longer access the complete data. This means that the results can therefore be incomplete or incorrect.

If you only want to reproduce an extract of the selected element for documentation generation rather than the entire model, documentation generation can be considerably accelerated.

Note

Before initiating generation of the information files, specifically select the elements in the model browser which you want to be taken into consideration in the model documentation (see page C-79). This selection depends on whether you create an outline or a complete documentation.

How to proceed

To only reproduce an extract during documentation generation:

» If necessary, jump to the model browser and select `Extras>Customize>Documentation Templates...`.
The dialog box of the same name appears.

» Select the documentation templates which you want to edit in the list box `Available documentation templates`.

» Click on `[Properties...]`.
The dialog box `Properties of <Documentation template>` appears.

» Jump to the tab `Generation Options`.

» Activate the check box `Generate excerpt from model`.

» Click on `[Apply]` to adopt the settings.

C-4.2.2 Selecting Elements for Model Documentation

Once you have made all the specifications for selection, output repository etc., select the element in the model browser which you want to adopt in your documentation. Depending on how many elements you select, generation of the information files may take some time.

Search inquiries are included in the scope of delivery; these facilitate selection of desired elements (see page C-80).

Selecting Elements

You can systematically specify the size of the documentation using the elements which you selected in the model browser.

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How to proceed

To select the element for the documentation:

» If necessary, jump to the model browser of the model to be documented.
» Select all elements which should be documented.

Storing Search Inquiries

You can store search inquiries configured in the model browser for constant selection. This causes the same selection (e.g. all released processes, classes, diagrams etc.) to always be carried out.

How to proceed

To store search inquiries for constant selection:

» If necessary, jump to the model browser and select `Extras>Customize>Documentation Templates...`.
The dialog box of the same name appears.
» Select the documentation templates which you want to edit in the list box `Available documentation templates`.
» Click on `[Properties...]`.
The dialog box `Properties of <Documentation template>` appears.
» Jump to the tab `Input Arguments`.
» Select one of the configured search inquiries from the drop-down list `Use search`.
» Click on `[Apply]` to adopt the settings.

C-4.2.3 Documenting Models from the Smallest Common Package

The entire package hierarchy is normally displayed in the documentation. You can, however, also make settings so that only the package tree is displayed from the smallest common root.

How to proceed

To create documentation based on the smallest common package:

» Open the documentation generator and activate the check box `Use least common package as root` in the group box `Options`.
or
» If necessary, jump to the model browser and select `Extras>Customize>Documentation Templates...`.
The dialog box of the same name appears.

» Select the documentation templates which you want to edit in the list box `Available documentation templates`.

» Click on `[Properties...]`.
The dialog box `Properties of <Documentation template>` appears.

» Jump to the tab `Generation Options`.

» Activate the check box `Use least common package as root`.

» Click on `[Apply]` to adopt the settings.

C-4.3 Generating Information Files

You initially only create information files when using the `Docu Repository` output format. You can specify at a later stage in another step which of the documentation generator's output formats the information files should be transferred in. This procedure only creates information files under the name of the selected output repository. You need to trigger the creation of model documentation using the documentation generator at a later stage yourself.

You can find more information about working with documentation generation in chapter C-5, "Creating Model Documentation with the Documentation Generator", page C-89.

Getting to Know Information Files

Information files produced upon generation contain all file names which you entered as output files in the dialog box `Properties of <Documentation template>` in the tab `Output Format` (see page C-74).

The following list is shown for the documentation of information files' name extensions and contents:

- `.d<x>`
  Model data
- `.t<x>`
  Templates
- `.s<x>`
  Selection in the model
- `0.0<x>`
  Graphic file
- `0.1<x>`
  Graphic file
- `0.2<x>`
  Graphic file
- `.3<x>`
  Graphic file

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- The file directory does not have a file name extension and contains the model's external files.

The wildcard <x> stands for the model type in information files.

- 1: SA/SD
- 2: ERM/SERM
- 3: UML 1
- 4: BPM
- 5: PM
- 6: UML 2

An SA/SD documentation's model data is therefore e.g. stored in the information file with the file name extension <Output>.d1

Note **The respective temporary files have an underscore at the end of the file name extension. Back-up files are not stored for information files.**

Initiating File Generation

Once you have selected the elements in the model browser which you want to adopt in the model documentation, initiate generation of the model documentation's information files as a second step.

How to proceed

To initiate generation:

» In the model browser, select Model>Documentation><Documentation Template>.

Generation of the information files begins.

An information window appears which you can use to follow which files and diagrams are created, generated and collected. Another smaller information window provides information about the progress of the generation in percent. The information files are stored in the directory which you entered as the output file (see page C-74).

If you use the Docu Repository output format, you need to initiate model documentation creation for creating the documentation as described in chapter C-5, page C-89.

C-4.4 Organizing Documentation Templates

You can organize the documentation templates which you created. You can:

- Set whether a documentation template should be shown in the menu (see page C-83)

- Set the position of the documentation template in the menu (see page C-84)
- Insert separation lines between template groups in the menu (see page C-84)
- Change the name of the documentation template (see page C-84)
- Make the documentation template the default template (see page C-85)
- Create a new documentation template using the default template (see page C-85)
- Copy a documentation template (see page C-86)
- Delete a documentation template or a separation line (see page C-86)
- Save a menu compiled of documentation templates (see page C-87)
- Load a menu compiled of documentation templates which has been saved (see page C-87)

Note

The documentation templates' settings apply to the current session. You can save a menu compiled of documentation templates in the `inodocuconf.ini` file in the `$INODIR` or `$HOME` directory and also load it from there.

When the model browser is started, the settings are read from this file in the `$HOME` directory or, if they do not exist there, they are ready in the `$INODIR` directory.

You can also save the settings in another INI file in any directory and, in doing so, manage project-specific documentation templates which you save and load for the respective project.

Displaying and Positioning Documentation Templates in the Menu

You can specify the selection composition and order of the documentation templates in the `Model>Documentation` menu yourself.

How to proceed

To set whether a documentation template should be shown in the menu:

» If applicable, jump to the model browser.

» Select `Extras>Customize>Documentation Templates...`.
The dialog box of the same name appears.

» Select the documentation templates which should appear in the `Model>Documentation` menu in the list box `Available documentation templates`.
If a documentation template's name contains two colons one after another (`::`), this acts as a grouped property over a maximum of 2 levels.

» Activate the check box `Show in menu`.

» Click on `[Change]`.
Repeat this for all documentation templates which you want to be shown in the menu.

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» Finally, close the dialog box with [OK].

Setting the Position of the Documentation Template in the Menu

You can position the documentation templates where you want in the Model>Documentation menu to suit your needs.

How to proceed

To set the position of the documentation template in the menu:

» If applicable, jump to the model browser.
» Select Extras>Customize>Documentation Templates.... The dialog box of the same name appears.
» Select the documentation template whose position you want to set in the Model>Documentation menu in the list box Available documentation templates.
» Click on [Up] or [Down] to position the template.
» Confirm your changes with [OK].

Inserting Separation Lines Between Template Groups

You can group the documentation templates in the Model>Documentation using separation lines.

How to proceed

To insert a separation line between two template groups in the menu:

» If applicable, jump to the model browser.
» Select Extras>Customize>Documentation Templates.... The dialog box of the same name appears.
» Select the documentation template which the separation line should be inserted after in the list box Available documentation templates.
» Click on [Separation line].
» A separation line is inserted after the selected documentation template in the list box Available documentation templates.
» Confirm your changes with [OK].

Renaming Documentation Templates

You can rename a documentation template. The name of the documentation template must be unique.

How to proceed

To change the name of a documentation template:

» If applicable, jump to the model browser.

» Select Extras>Customize>Documentation Templates....
The dialog box of the same name appears.
» Select the documentation template whose name you want to change in the list box Available documentation templates.
» Enter the new name in the field Name of documentation template.
» Click on [Change].
The name of the selected documentation template is changed in the list box Available documentation templates.
» Confirm your changes with [OK].

Making Documentation Templates Default Templates

You can specify a documentation template as the default template. A new documentation template is added with this default template's properties. You can identify a default template, as its [Default] button is grayed out if this template is selected in the list box Available documentation templates.

How to proceed

To make a documentation template into the default template:

» If applicable, jump to the model browser.
» Select Extras>Customize>Documentation Templates....
The dialog box of the same name appears.
» Select the documentation template which you want to make into the default template in the list box Available documentation templates.
» Click on [Default].
» Confirm your changes with [OK].

Creating Documentation Templates Using Default Templates

You can use the default template (see page C-85) as a basis for creating a new documentation template rather than copying any documentation template (see page C-86). The name of the documentation template must be unique.

How to proceed

To create a documentation template using the default template:

» If applicable, jump to the model browser.
» Select Extras>Customize>Documentation Templates....
The dialog box of the same name appears.
» Enter the name of the new documentation template in the field Name of documentation template.

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» Click on [Add].
A new documentation template is created as a copy of the current default template. The created documentation template appears in the list box Available documentation templates.
» Confirm your changes with [OK].

Copying Documentation Templates

You can create a new documentation template by copying any template rather than using the default template as a basis (see page C-85). The name of the documentation template must be unique.

How to proceed

To copy a documentation template:

» If applicable, jump to the model browser.
» Select Extras>Customize>Documentation Templates....
The dialog box of the same name appears.
» Select the documentation template which you want to copy in the list box Available documentation templates.
» Click on [Copy].
The copied documentation template appears with an automatically generated name in the list box Available documentation templates.
» Confirm your changes with [OK].
» If applicable, change the name as described on page C-84.

Deleting Documentation Templates or a Separation Line from the Menu

You can delete a documentation template or a separation line from the list box Available documentation templates

Deleting documentation templates from the compiled menu only applies for the current session as long as you don't save the compilation (see page C-87).

How to proceed

To delete a documentation template or a separation line:

» If applicable, jump to the model browser.
» Select Extras>Customize>Documentation Templates....
The dialog box of the same name appears.
» Select the documentation template or separation line which you want to delete in the list box Available documentation templates.
» Click on [Delete].
The documentation templates or separation line are deleted from the list box Available documentation templates.

» Confirm your changes with [OK].

Saving Compilation of Documentation Templates

The documentation templates' settings apply to the current session. You can save the menu compilation of the documentation templates in the $INODIR or $HOME directory and load from there as well (see page C-87).

How to proceed

To save the compilation of documentation templates:

» If applicable, jump to the model browser.

» Select Extras>Customize>Documentation Templates.... The dialog box of the same name appears.

» Specify whether you want to save the compilation of documentation templates according to the writing rights granted in the inodocu-conf.ini file of the $INODIR or $HOME directory in the group box Saving location and click on [Save].

To save a project-specific compilation of document templates, activate the Other Location radio button, click on [Save...], enter the file name and the compilation's directory in the Select Output File Name dialog box and click on [Save].

» Close the dialog box with [OK].

Loading Saved Documentation Template Compilations

You can load settings for documentation templates from the $INODIR or $HOME directory.

How to proceed

To load the saved compilation of documentation templates:

» If applicable, jump to the model browser.

» Select Extras>Customize>Documentation Templates.... The dialog box of the same name appears.

» Specify whether you want to load the compilation of documentation templates in the $INODIR or $HOME directory in the group box Saving location and click on [Load].

To load a project-specific compilation of document templates, activate the Other Location radio button, click on the [Load...] button, select the compilation's directory and file name in the Select Input File dialog box and click on [Load].

» Confirm your changes with [OK].

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C-5 Creating Model Documentation with the Documentation Generator

So-called information files are a prerequisite for creating a model documentation (see chapter C-4, "Configuring Model Documentation", page C-73). They contain the necessary data for model documentation, i.e. model data, graphic and selection information and documentation structure. They reflect the state of the model development which was achieved at the time of generation.

You can now create and display your model documentation from these information files using the documentation generator `inodocu.exe`.

This means that the documentation does **not** use the central online repository which continuously maintains the model and makes sure the changes are kept up-to-date, but processes a snapshot of the repository. This offline specification enables documentation to be created in various output formats–PostScript, Word for Windows etc.–which all represent the same state of model development. This means that the developer can make changes etc to their work during documentation generation.

Note

To be able to document a specific state of model development at a later stage, the model needs to be versioned in this state.

Supported Formats

The following selection options are available for you in the documentation generator for selecting your output type for the documentation to be created:

- Preview window (standard, direct post-processing possible)
- Word for Windows document
- ASCII text document
- XML file
- PostScript document

Select the graphics format to be created for each output type:

- EMF (Enhanced Metafile)
- EPS (Encapsulated PostScript)
- PNG (Portable Network Graphic)
- SVG (Scalable Vector Graphic)

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C-5.1 Starting the Documentation Generator

Depending on which platform you work on, the documentation generator needs to be started in different ways. This enables you to set parameters or start the documentation generator from scripts. On all platforms, you can set documentation creation to be triggered directly after the information files are generated.

Note **The `inodocu.exe` documentation generator is normally automatically started if you have set another output format as the `docu repository` when generating documentation from the model browser in the dialog box `Customize/Documentation Templates` in the tab `Output Format`.**

If you have selected the `docu repository` as format, it is a good idea to enter a file name in the field `Name of information files`; you can then use this as the input repository for documentation generation.

If you leave this field empty, a file name is automatically generated; this can be seen in the `docu information` info window.

If you use another output format and want to use the docu repository to generate another documentation in another format, you need to deactivate the check box `Remove input repositories on success` in the tab `Generation Options`.

You can either make the settings for the documentation generator using parameters when starting the program or using a dialog box. You can find a list of the parameters on page C-92. Read how to make settings in the dialog box from page C-95.

C-5.1.1 Calling the Documentation Generator Under Windows

You can find the `inodocu.exe` documentation generator program in the Documents folder in the Innovator program group.

How to proceed

To start the documentation generator:

» Double-click on the `Documentation Generator` icon in the program group in the Documentation folder.
The dialog box `Documentation Generator` which you can make the necessary settings for documentation specification, as described in chapter C-5.2, page C-95, opens.

C-5.1.2 Using Documentation Generator Parameters Under Windows

When calling the documentation generator, you can already use various parameters to set e.g. the model type, output directory and format or the printer to be used in the parameter command line (see page C-92). Depending on which options you entered when calling the documentation generator, the dialog box won't open or the corresponding field in the dialog box will be filled in.

Note

If you don't enter any parameters when calling the `inodocu.exe` documentation generator, it uses default settings.

Directly Triggering Documentation Creation

If you enter a name when accessing the documentation generator and, if applicable, a path component for the input repository, as well as the file name extension for the model type to be documented, you can directly trigger documentation creation.

How to proceed

To start the `inodocu.exe` documentation generator in such a way that the desired documentation is immediately created when called:

» Enter
`inodocu <Options> <Name of input repository>`
in the command line.

If the information files are not in the current working directory:

» Enter the path component for the `<name of input repository>`.

To specify the model type you want to document:

» Set the appropriate parameter (see page C-92) or enter the appropriate file name extension of the input repository's file which contains the model data.

Note

The file name extensions for the information files, which contain the model data are:
`.d1` **for Innovator Function (standard)**
`.d2` **for Innovator Data classiX**
`.d3` **for Innovator Object classiX**
`.d4` **for Innovator Business**
`.d5` **for Innovator Process (PHB)**
`.d6` **for Innovator Object eXcellence**
`.d7` **for Innovator Report**
`.d8` **for Innovator Data eXcellence**

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You can set various parameters when accessing the documentation generator. Look at the subsequent list which contains the available options and their effects.

Note **You can also set some parameters in the `Settings` section of the `inodocu1.ini` file.**

Parameters (Windows)	Effect	Option in the Dialog Box
`/AT <Graphic format>`	The documentation is created as ASCII text.	drop-down list `Kind of output`, entry `ASCII text document`
`/av <Name>` (only eXcellence)	Enter which verification routine saved in the model should be generated for verifying the model contents ("apply verification").	drop-down list `Verify`
`/BM` `/ERM` `/SASD` `/UML14` `/UML20` `/VM`	Specify the documentation type (BM - Business, ERM - Data, SASD - Function, UML14 - Object classiX, UML20 - Object eXcellence, VM - Process)	(Determined by model type)
`/bpf`	A graphic file is not created when generating in ASCII text, XML or for Word for Windows.	check box `Don´t create graphic files`
`/cc`	Character verification is deactivated.	check box `Don´t validate characters`
`/chcd`	Main chapters which didn't have subchapters set for them in the structure tree or didn't have any due to the modeled data in the result document are converted into line lists. Headings are not displayed for these.	option button `Dynamically`
`/chcs`	Main chapters which didn't have subchapters set for them in the structure tree are converted into line lists. Headings are not displayed for these.	option button `Leaf nodes within structure tree only`

Parameters (Windows)	Effect	Option in the Dialog Box
/cmg	Graphics in EPS or PNG format (which can assume various pages according to configuration in the diagram or table editor) are displayed on one page in the documentation. This option does not apply for graphics in SVG and EMF vector formats, as these graphics are always scaled to one single page.	check box Collate multi-paged graphics
/d <Path Component>	Specify the directory's path component which the documentation should be generated in. If no output directory is set, the files are stored in the current working directory.	field Output directory
/ec	All main chapters which are empty are suppressed into model components upon documentation creation.	check box Suppress all empty chapters
EPS PNG EMF SVG	Specify the graphic format for the ASCII text document, XML and Word for Windows document output types. Reset the output format when entering the graphic format (e.g.: /WW EPS)	drop-down list Graphics format
/f	Specify that the data will be read from a server-generated ASCII file and not from information files.	field Input ASCII file
/lcp	Specify that the least common package is used as root.	check box Use least common package as root
/oa	The output file is automatically opened for the Word for Windows and XML output types.	dialog box Customize/Documentation Templates, tab Postprocessing
/on	The output file does not open for the Word for Windows and XML output types.	
/oq	The output file opens upon request for the Word for Windows and XML output types.	
/p <Printer>	If the preview window output format is selected, specify the printer which the documentation should be printed from.	drop-down list Printer

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Parameters (Windows)	Effect	Option in the Dialog Box
/pmv	The model's elements are no longer verified during documentation creation.	check box Suppress model verification
/PS	The documentation is suppressed in PostScript format.	drop-down list Kind of output, PostScript entry
/PV	The documentation is displayed in the preview window.	drop-down list Kind of output, Preview window entry
/rir	The information files are deleted after successful creation of the documentation.	check box Remove input repositories on success
/sp <Path Component>	If a relative or absolute path component is entered for the file when graphic or text files are imported using the .import or .include dot commands, this specification's file is loaded accordingly. If, on the other hand, only a file's name is specified, this option sets the directories which will be searched for the file if they are not stored in the current working directory. Multiple path components are split by vertical lines ('|').	
/stsh <File>	Enter an XSL style sheet for an XML documentation.	field XSL stylesheet
/ts /ta	Tcl scripts and call arguments for outputs in PostScript, Word, ASCII and XML format. Tcl scripts are automatically executed at the end of documentation creation via inotcl. The created output files are also transferred as well as the given arguments. This enables e.g. Word or another application to be called for the generated output file.	Script Arguments
/u	Affects the call syntax to be output to the inodocu program.	
/v	Affects the version information to be output to the inodocu program.	
/w	The window for displaying the editing status is opened upon documentation creation if calling of inodocu takes place by specifying a name for the information files.	

Parameters (Windows)	Effect	Option in the Dialog Box
/WW <Graphic format>	The documentation is created as a file in MS Word for Windows format.	drop-down list Kind of output, Word for Windows document entry
/XML <Graphic format>	The documentation is created as a file in XML format.	drop-down list Kind of output, XML entry
/x	The entered XSL style sheet (see /stsh) is utilized after an XML documentation is created.	check box Execute XSL transformation

C-5.2 Specifying Input Data and Output Settings

The documentation generator uses the information files of a specific model type to create the model documentation using the output parameters and layout specifications specified by you.

Use the Innovator Report edition edition for documenting the same models of different types.

There are a multitude of options available to you in the dialog box Documentation Generator for specifying the following:

- The model type to be documented
- The input repository whose name the information files to be used will be stored
- The output directory which the files generated from the inodocu.exe documentation generator should be stored in
- The output types and, if applicable, the graphic formats, printer and XSL styles sheets associated with them
- Specific layout specifications
- Whether the model verification should be activated or deactivated

C-5.2.1 Entering Input Data

In the first step, specify which model type should be documented and which information file should be used for it.

Specifying Model Types

Firstly, select the model type you want to document.

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How to proceed

To specify the model type:

» Open the dialog box `Documentation Generator`, as described on page C-90.

» Select the model type from the drop-down list `Type of documentation` which you want to document.

Selecting Input Repositories

Select the information files you have generated, as described in chapter C-4, "Configuring Model Documentation", page C-73. Also select the appropriate input repository.

Note

The output repository which you entered when generating the information files in the dialog box `Customize/Documentation Templates` under `Properties...` in the tab `Output Format` in the field `Name of information files` serve as an input repository for the documentation generator (see page C-76).

How to proceed

To select an input repository:

» Enter the names and complete path component of the repository's information files in the field `Input repositories` (see page C-81)

or

» Click on `[Select]` and select a file.

The name and path component are adopted in the field `Input repositories`.

Selecting Input ASCII Files

You can also use another type of input file in ASCII format instead of an input repository. This can only be created by a Tcl interpreter using the corresponding commands. An input file of this sort already contains information about the documentation structure completed by the server.

How to proceed

To select an input ASCII file:

» Enter the names and complete path component of the file in the field `Input ASCII file`

or

» Click on `[Select]` and select a file.

The name and path component are adopted in the field `Input ASCII file`.

C-5.2.2 Making Output Settings

Once you have entered the input data (see page C-95), if applicable, set where the created data should be stored and make further settings for the documentation output.

Selecting Output Directories

You can enter a directory which the files should be stored in and which is generated upon documentation creation.

Note

If you have not set an output directory, the files are stored in the current working directory.

How to proceed

To set the output directory:

» Open the dialog box `Documentation Generator`, as described on page C-90.

» Enter the complete path component in the field `Output directory`.

If applicable, make further settings for documentation output in the group box `Options`.

Deleting Input Repositories

You can specify that the information files should be deleted upon successful documentation creation.

How to proceed

So that the information files are deleted after successful creation of the documentation.

» Activate the check box `Remove input repositories on success` in the group box `Options`.

Note

As long as the input repository is not deleted, you can repeat documentation generation as many times as necessary.

Collating Multi-Paged Graphics

In the documentation generator, you can specify whether graphics in EPS or PNG format (which can assume various pages according to configuration in the diagram or table editor) are displayed on one page or more in the documentation. This option does not apply for graphics in SVG and EMF vector formats, as these graphics are always scaled to one single page.

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How to proceed

To collate multi-paged graphics:

» Activate the check box `Collate multi-paged graphics` in the group box `Options`.

Note **This option can also be found in the model browser under `Extras>Customize>Documentation Templates...`, after clicking on `[Properties...]` in the tab `Output Format` in the group box `Graphics`.**

Deactivating Character Verification

If a character which cannot be converted using the selected output format appears in the document during creation, a warning appears as standard. You can deactivate this function.

How to proceed

To deactivate character verification:

» Activate the check box `Don´t validate characters` in the group box `Options`.

Suppressing Empty Chapters

The heading and an entry in each table of contents and index appear as standard in the documentation created for empty main chapters for the model components. You can specify that this empty chapter or the entries for this chapter should be suppressed in the documentation.

Note **If an empty chapter was converted in a bullet point list entry, it is no longer removed (see page C-99).**

How to proceed

To suppress the empty chapter:

» Activate the check box `Suppress all empty chapters` in the group box `Options`.

Deactivating Model Verification

The model's elements are verified during documentation creation as standard. You can deactivate this function.

How to proceed

To deactivate model verification:

» Activate the check box `Suppress model verification` in the group box `Options`.

Converting Chapter Headings in Bullet Point Lists

You can set to what extent the main chapter should be shown in line lists upon documentation output in the group box `Convert chapter headings to dash lists`.

Note

If you suppress empty chapters their headings are no longer listed (see page C-98). This means that they can no longer be listed as line lists.

How to proceed

If you want main chapters (which have a variable such as `$(name)`) which were not set sub-chapters in the structure tree to be displayed as line lists:

» Activate the option button `Leaf nodes within structure tree only`.
The chapter is shown without headings.

How to proceed

If you want both main chapters which didn't have any sub-chapters set for them in the structure tree and those which have headings, but which wouldn't have any in the result document due to the modeled data, to be displayed as line lists:

» Activate the option button `Dynamically`.

How to proceed

If you do not want main chapters without sub-chapters to be converted into line lists:

» Activate the option button `Never`.

C-5.3 Selecting Output Types

In the second step, specify how the created documentation should be shown. The following selection options can be used for this:

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- Preview window (standard)
- Word for Windows document
- ASCII text document
- XML file
- PostScript document

C-5.3.1 Displaying Documentation in the Preview Window

If you display the documentation in the documentation's preview window, you can view it, change it into various different formatting if necessary and print directly from this application (see page C-115).

Note **You can use appropriate entries to set default documentation layout which is displayed in the preview window in the `inodocu1.ini` file's `RG` and `PV` sections.**

Specifying Preview Windows as Output Types

Firstly, specify that the documentation should be displayed in the preview window.

How to proceed

To unsuppress documentation in the preview window:

» Open the dialog box `Documentation Generator`, as described on page C-90.

» Select the `Preview Window` entry in the drop-down list `Kind of output`.

Setting Default Printer

Optionally, you can specify the printer which the preview window should use as default printer.

How to proceed

To specify the printer which the preview window should use as default printer:

» Specify the printer which the documentation should be printed from in the drop-down list `Printer`.

» Click on `[OK]`.

C-5.3.2 Displaying Documentation in MS Word for Windows Format

You can display documentation in MS Word for Windows version 1.1 or 2.0 format in a text file. Which version the documentation is displayed in depends on the appropriate entry for the version in the `inodocu1.ini` file's `WW` section.

Providing Styles

You can use the `inodocu.dot` document template for designing a model documentation's layout and formatting in Microsoft Word for Windows format. This file is an Innovator component and can be found in the `$INODIR` directory. It is in Word for Windows 2.0 format, contains all format templates which are also used in the created documentation and is automatically linked with the text output file as standard.

Note

Alongside the `inodocu.dot`, the following are also included in the `$INODIR` directory:

- **The `inodocu1.dot` file specified for Word version 1.1,**
- **The `inodocu2.dot` file specified for Word versions 2.0 to Word 2000 and**
- **The `inodocu2003.dot` file specified for Word version 2003 and above.**

The `inodocu.dot` file is a copy of `inodocu2.dot` as standard.

You only need to modify the affected format templates in `inodocu.dot` for modifying margins, fonts, paragraph formats etc., as the text output file does not contain any formatting information itself, but only contains references to format templates. The modified print format takes affect in a newly created documentation once the command for connecting print formats from the document template is executed.

Margins in the Word template need to be smaller or the same size as the margins in the `inodocu1.ini` file's `WW` section.

How to proceed

To make the document template for editing documentation in Word for Windows available:

» For **Microsoft Word 2.0 to Word 2000**, copy the `inodocu.dot` file in the Word for Windows' templates directory.

» For **Microsoft Word 2003**, copy a copy of the `inodocu2003.dot` file in the Word for Windows' templates directory and name it `inodocu.dot`.

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» For **Microsoft Word for Windows 1.1**, copy a copy of the `inodocu1.dot` file in the Word for Windows' templates directory and name it `inodocu.dot`.
So that a modified format template takes affect in a created documentation:

» Connect this with the documentation.
You can find more information about this topic in your MS Word for Windows manual.

Note **If the generated document should be imported in a higher version of MS Word for Windows, you need to have installed the appropriate conversion filter. Alternatively, you can select RTF.**

If applicable, the documentation generator creates various graphic files for the `Word for Windows` output types.

Note **The name of the created text file takes it name from the information file's name and the `.doc` file name extension.**

The graphic file takes its name from five characters from the information file's name, its numbering from `000` and the file name extension which ensues from the graphic format (e.g. `name000.emf` for an EMF graphic file).

Using Outline Numbering from Word for Windows

The documentation generator can use the automatic outline numbering from Word for Windows for outputting documentation in Word for Windows format. This is based on paragraph formats for the corresponding Word for Windows document template headings. Innovator's numbering is deactivated in this case.

Use of integrated Word for Windows outline numbering enables uniform and consistent numbering of the complete document with all external objects (Word for Windows documents) integrated by Word for Windows. The external objects also obviously need to use Word for Windows paragraph formats for chapter headings.

Activating outline numbering using Word for Windows is carried out using the `Automatic Numbering` parameter in the `[WW]` section in the `inodocu1.ini` file.

Parameter	Meaning
`0` (default)	Innovator's separate chapter numbering is created as a set text in Word for Windows.
`1`	Innovator's separate chapter numbering is created as a field function in Word for Windows.
`2`	The outline numbering from Word for Windows is used, Innovator's chapter numbering is deactivated.

Specifying Word for Windows as Output Types

Firstly, specify that the documentation should be displayed in Word for Windows format.

How to proceed

To unsuppress documentation in Word for Windows format:

» Open the dialog box `Documentation Generator`, as described on page C-90.
» Select the `Word for Windows Document` entry in the drop-down list `Kind of output`.

Specifying Graphic Formats

You can specify the format of the graphic files to be created using the Word for Windows output type. Formats available for selection:

- EMF (Enhanced Metafile)
- EPS (Encapsulated PostScript)
- PNG (Portable Network Graphic)
- SVG (Scalable Vector Graphic)

How to proceed

To specify the graphic format:

» Specify the desired graphic format in the dialog box `Documentation Generator` in the drop-down list `Graphics format`.

Outputs without Graphic Files

Optionally, you can make a specification for this output type so that only the text file should not display graphic files.

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How to proceed

To specify that the graphic files should not be created:

» Activate the check box `Don´t create graphic files` in the dialog box `Documentation Generator` in the group box `Options`.

Connecting Documentation in Word for Windows with Tcl Script

Optionally, you can specify a Tcl script for this output type and give it call arguments. A script entered at this point is automatically executed once the documentation have been created using the `inotcl.exe` Tcl editor; both the given arguments and the created output file's path name are transferred. In this way, the generated output file is e.g. called directly after its creation in the Word for Windows application.

Note

You can also specify Tcl scripts and call arguments for outputs as ASCII documents (see page C-106), XML files (see page C-109) and PostScript documents (see page C-112).

How to proceed

To connect the Word for Windows document with a Tcl script:

» Enter an appropriate Tcl script in the dialog box `Documentation Generator` in thegroup box `Tcl script` in the field `Script`.

or

» Click on `[Select]`.
The dialog box `Select Tcl Script` appears.

» Specify the desired Tcl script and click on `[Open]`.
The name and complete path component of the selected script are adopted in the field.

» Enter the desired call argument in the field `Arguments`.
To start the creation of the Word for Windows document and the specified application with the selected Tcl script:

» Click on `[OK]`.

Controlling Documentation Output for Word for Windows

A query dialog is normally opened after documentation generation in Word for Windows format; in this dialog, the user can enter whether the generated document should be opened or not. If the `inodocu.exe` documentation generator is started using the `/on` option, the Word file is not opened; if the documentation generator is started using the `/oa` option, the Word file will be opened without asking if it should be opened (see page C-92).

Alternatively, the result file's output can be controlled using radio buttons in the dialog box `Customize/Documentation Templates`, which you can access in the model browser.

How to proceed

To influence the result file's output:

» Select the `Extras>Customize>Documentation Templates...` menu item in the model browser.
The dialog box of the same name appears.
» Activate one of the junctions `Always`, `Never` or `Prompt user` in the tab `Postprocessing` in the group box `Open result`.

Creating or Updating the Table of Contents

The table of contents is not immediately shown in documentation which you have opened for the first time in Word for Windows format; it needs to be created.

How to proceed

To create the table of contents:

» Mark the entire document in MS Word for Windows (e.g. with [Ctrl] +[A]).
» Press the key [F9] to refresh the field.

You can find more information about this topic in your MS Word for Windows manual.

Displaying Graphics and Specifying Scales

Embedded graphics are not immediately shown in documentation which appear for the first time in MS Word for Windows format. To display the graphics, the links need to be refreshed.

Note

You need the appropriate plug-in to display EPS graphics.

Set the scaling for the imported graphics with the entries provided for this in the `inodocu1.ini` file's `WW` section.

How to proceed

To refresh the links:

» Mark the entire document in MS Word for Windows (`[Ctrl]+[A]`).
» Press the key [F9] to refresh the field.

You can find more information about this topic in your Word for Windows documentation.

Editing Headers and Footers

You need to customize the print format for setting the vertical line position which separates the header or footer from the actual text for headers and footers which consist of more than one row of text.

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Integrating External Objects

When integrating external objects (see page C-24) it is essential to add the file name extensions of such external objects to the names of applications for editing these objects. The `Applications` entry in the `WW` section of the `inodocu1.ini` file can be used for this purpose.

Innovator creates a DDE field function when integrating external objects in a documentation for MS Word for Windows version 2.0. This is done as a link field function without line item specification wrongly leads to an error message in Word for Windows version 2.0. If such a document should be imported in a higher version of MS Word for Windows, the link using the DDE field function cannot be created.

How to proceed

To use link field functions instead of DDE field functions:

» Set the `Link Field` entry in the `WW` section of the `inodocu1.ini` file to the `1` value.

C-5.3.3 Displaying Documentation in ASCII Text Format

You can display the documentation in a file in ASCII format. With this export type, the documentation generator `inodocu.exe` creates any additional graphic files, if required, as standard. The export file can be converted into any other desired export formats with a suitable filter, e.g. TCL scripts, whereby this should support at least one of the graphic formats named in the section "Specifying Graphic Formats", page C-107.

Note

The name of the created text file takes it name from the information file's name and the `.iad` file name extension.

The graphic file takes its name from five characters from the information file's name, its numbering from `000` and the file name extension which ensues from the graphic format (e.g. `name000.pang` for an PNG graphic file).

Specifying ASCII Formats as Output Types

Firstly, specify that the documentation should be displayed in the ASCII format.

How to proceed

To unsuppress documentation in ASCII format:

» Open the dialog box `Documentation Generator`, as described on page C-90.

» Select the `ASCII Text Document` entry in the drop-down list `Kind of output`.

Specifying Graphic Formats

You can specify the format of the graphic files to be created using the ASCII format output type.

Note

When selecting the graphic format, you need to ensure that this is supported by the output format which the output file should most likely be converted in.

Formats available for selection:

- EMF (Enhanced Metafile)
- EPS (Encapsulated PostScript)
- PNG (Portable Network Graphic)
- SVG (Scalable Vector Graphic)

How to proceed

To specify the graphic format:

» Specify the desired graphic format in the dialog box `Documentation Generator` in the drop-down list `Graphics format`.

Outputs without Graphic Files

Optionally, you can make a specification for this output type so that only the text file should not display graphic files.

How to proceed

To specify that the graphic files should not be created:

» Activate the check box `Don´t create graphic files` in the group box `Options`.

Connecting Documentation in ASCII Format

Optionally, you can specify a Tcl script for this output type and give it call arguments. A script entered at this point is automatically executed once the documentation have been created using the `inotcl.exe` Tcl editor; both the given arguments and the created output file's path name are transferred. In this way, the generated output file is e.g. converted directly after its creation into another target format.

Note

You can also specify Tcl scripts and call arguments for outputs as Word for Windows documents (see page C-101), XML files (see page C-109) and PostScript documents (see page C-112).

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How to proceed

To connect the ASCII document with a Tcl script:

» Enter an appropriate Tcl script in the dialog box `Documentation Generator` in thegroup box `Tcl script` in the field `Script`.

or

» Click on `[Select]`.
The dialog box `Select Tcl Script` appears.

» Specify the desired Tcl script and click on `[Open]`.
The name and complete path component of the selected script are adopted in the field.

» Enter the desired call argument in the field `Arguments`.
To start the creation of the ASCII document and the specified application with the selected Tcl script:

» Click on `[OK]`.

Unsuppressing Documentation Directly in RTF, HTML or FrameMaker Format

Using Tcl scripts, you can specify that the created output file should be converted into the following output formats directly after creation:

- Rich Text Format (RTF)
- HyperText Markup Language (HTML)
- Maker Interchange Format (MIF) for Adobe FrameMaker

How to proceed

To unsuppress the output file in RTF format:

» Enter the `asc2rtf.tcl` Tcl script in the dialog box `Documentation Generator` in the group box `Tcl script` in the field `Script`.
To unsuppress the output file in HTML format:

» Enter the `asc2html.tcl` Tcl script in the group box `Tcl script` in the field `Script`.
To unsuppress the output file in MIF format:

» Enter the `asc2mif.tcl` Tcl script in the group box `Tcl script` in the field `Script`.

» Enter the desired call argument in the field `Arguments`.
To start the creation of the output files and the specified conversion with the selected Tcl script:

» Click on `[OK]`.

Specifying Import Graphic Scales

Set the scaling for the imported graphics with the entries provided for this in the `inodocu1.ini` file's `AT Section` section.

C-5.3.4 Displaying Documentation in XML Format

You can display the documentation in a file in XML format. With this export type, the documentation generator `inodocu.exe` creates any additional graphic files, if required, as standard.

Note

The name of the created file takes it name from the information file's name and the `.xml` file name extension.

The graphic file takes its name from five characters from the information file's name, its numbering from `000` and the file name extension which ensues from the graphic format (e.g. `name000.pang` for an PNG graphic file).

The main purpose of the XML export format is to generate other documents with it, such as HTML files. For this purpose, an XSL style sheet (`htmldocu.xsl`, see page C-110) and the style sheet processor (`xp`, see page C-111) are included with Innovator.

Note

A cascading style sheet `docu.css` is also included in the `$INODIR` directory. This is used for formatting HTML files. This enables documentation appearance (font size, colors, ...) to be individually customized to your requirements.

Specifying XML Formats as Output Types

Firstly, specify that the documentation should be displayed in the XML format.

How to proceed

To unsuppress documentation in XML format:

» Open the dialog box `Documentation Generator`, as described on page C-90.
» Select the `XML` entry in the drop-down list `Kind of output`.

Specifying Graphic Formats

You can specify the format of the graphic files to be created using the XML output type.

Formats available for selection:

- EMF (Enhanced Metafile)
- EPS (Encapsulated PostScript)
- PNG (Portable Network Graphic)
- SVG (Scalable Vector Graphic)

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Note **When selecting the graphic format, you need to ensure that this is supported by the output format which the output file should most likely be converted in.**

The EMF graphic format is only available under MS Windows.

How to proceed

To specify the graphic format:

» Specify the desired graphic format in the drop-down list `Graphics format`.

Outputs without Graphic Files

Optionally, you can make a specification for this output type so that only the text file should not display graphic files.

How to proceed

To specify that the graphic files should not be created:

» Activate the check box `Don´t create graphic files` in the group box `Options`.

Selecting XSL Style Sheets

The export file in XML format can be converted into any other desired export formats (e.g. HTML) with a suitable filter, e.g. XSL style sheets, whereby this should support at least one of the graphic formats named in the section "Specifying Graphic Formats", page C-107.

Note **The `htmldocu.xsl` style sheet is included in the `$INODIR` directory for creating HTML files. This stylesheet converts the XML file into various smaller HTML files, which are linked via the `name.html` file.**

How to proceed

To select an XLS style sheet:

» Enter the complete path component in the field `XSL stylesheet` in the dialog box `Documentation Generator`.

or

» Click on `[Select]`.
The dialog box `Select xsl-stylesheet` appears.

» Select the desired XLS style sheet and click on `[Open]`.
The name and path component of the selected style sheet are adopted in the field `XSL stylesheet`.

Evaluating XSL Style Sheets

You can specify that an entered XSL style sheet should be evaluated after an XML documentation is created. For this, a style sheet processor runs through the results and carries out the conversion. You can find the processor specifications under the keyword `XML` in the `inodocu1.ini` parameter file.

How to proceed

So that an XSL style sheet is evaluated:

» Activate the check box `Execute XSL transformation` in the group box `Options`.

Connecting Documentation in XML Format with Tcl Script

Optionally, you can specify Tcl scripts for this output type and give it call arguments. A script entered at this point is automatically executed once the documentation has been created using the `inotcl.exe` program; both the given arguments and the created output file's path name are transferred.

Note

You can also specify Tcl scripts and call arguments for outputs as Word for Windows documents (see page C-101), ASCII text documents (see page C-106) and PostScript documents (see page C-112).

How to proceed

To connect the XML document with a Tcl script:

» Enter an appropriate Tcl script in the group box `Tcl script` in the field `Script`.

or

» Click on `[Select]`.
The dialog box `Select Tcl Script` appears.

» Specify the desired Tcl script and click on `[Open]`.
The name and complete path component of the selected script are adopted in the field.

» Enter the desired call argument in the field `Arguments`.
To start the creation of the XML document and the specified application with the selected Tcl script:

» Click on `[OK]`.

Note

With very large XML files, the XSL transformation of the documentation could be aborted, as the JAVA process' memory requirements are too large. You can set the largest possible heap size using the JAVA-VM's call parameter. To do this, you need to set the `XSL Style`

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`Sheet Processor` entry in the `XML` section in the `inodocu1.ini`. The following targets set the maximum heap size for the SUN JAVA VM to 64 megabytes:

```
XSL style sheet processor = "java -mx64m -classpath '$(INODIR)/java/
sax.jar;$(INODIR)/java/xp.jar;$(INODIR)/java/xt.jar'
Dcom.jclark.xsl.sax.parser= com.jclark.xml.sax.CommmentDriver
com.jclark.xsl.sax.Driver"
```

C-5.3.5 Displaying Documentation as PostScript Documents

If you export your documentation in the platform-independent description language PostScript, you can print it out in a later step or view it in corresponding display programs. As an option you can specify that the PostScript document of your documentation is exported in an application directly after its generation. The name of the created PostScript documentation takes its name from the information file's name and the `.ps` file name extension.

Note **You can use appropriate entries to set documentation layout which is displayed as PostScript documents in the `inodocu1.ini` file's `RG` section.**

Specifying PostScripts as Output Types

Firstly, specify that you want to display the documentation as a PostScript document.

How to proceed

To unsuppress the documentation as a PostScript document:

» Open the dialog box `Documentation Generator`, as described on page C-90.

» Select the `PostScript Document` entry in the drop-down list `Kind of output`.

Connecting PostScript Documentation with Tcl Script

If you display the documentation as a PostScript document, you can optionally specify a Tcl script and give it call arguments. A script entered at this point is automatically executed at the end of documentation creation via the `inotcl.exe` program. The created output files are also transferred as well as the given arguments.

Note

You can also specify Tcl scripts and call arguments for outputs as Word for Windows documents (see page C-101), ASCII text documents (see page C-106) and XML (see page C-109).

How to proceed

To connect the PostScript document with a Tcl script:

» Enter an appropriate Tcl script in the group box `Tcl script` in the field `Script`.

or

» Click on `[Select]`.

The dialog box `Select Tcl Script` appears.

» Specify the desired Tcl script and click on `[Open]`.

The name and complete path component of the selected script are adopted in the field.

» Enter the desired call argument in the field `Arguments`.

To start the creation of the PostScript document and the specified application with the selected Tcl script:

» Click on `[OK]`.

Alternatively, you can input the following entry in the `inoprint.ini` file:

```
[printer]
PostScript=PostScript, .
PostScript to Printer = "PostScript, /tmp | lpr %1 ; rm %1"
PostScript to GV = "GV, /tmp | ghostview %1 ; rm %1"
```

and enter the desired printer or call the `inodocu` documentation generator using the following arguments:

```
inodocu -PS -p "PostScript to GV" file.d1
```

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C-6 Viewing Documentation in the Preview Window

You can view the generated documentation on the screen before it is outputted in the documentation generator's **documentation's preview window**. In this window you can:

- View all areas included in the documentation
- Still make changes to the layout for the output if necessary.
- Print the documentation out directly from a printer installed on the system.
- Unsuppress the documentation with the set layout as a PostScript file
- Convert the documentation in a print file, so that it can then be processed directly by a selected printer

C-6.1 Calling and Viewing Documentation

You can use the documentation's preview window to view the documentation immediately after generation or after it is edited in the documentation generator (see page C-89) and make any necessary general modifications to the layout before output.

Calling Documentation in the Preview Window

To view the documentation in the preview window you need to set the appropriate settings in the documentation generator (see page C-89).

How to proceed

To call documentation in the preview window:

» Select the `Preview Window` entry in the dialog box `Documentation Generator` in the drop-down list `Kind of output` (see page C-100).

» Then continue with the documentation generation.
As soon as the documentation is generated, the preview window opens automatically with the generated documentation.

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Closing the Preview Window

Once you have viewed the documentation in the preview window and edited and displayed it as described in the following chapters if necessary, close the preview window.

How to proceed

To close the preview window:

» Select `File>Exit`.
The dialog box of the same name appears.
» To confirm the close demand, click on `[Yes]`.

C-6.1.1 Using Information in the Preview Window

As with other Innovator windows, the window's title pages and status bars provide useful information. An information window shows statistical data about the documentation which is currently called, among other things.

Using Information about the Title bar and Status Bar

The following can be seen in the window's title page:

- Name and path of the open documentation repository

The status bar shows you the following information, among other things:

- Page number and area of the page currently being displayed
- The zoom factor currently being applied for the document open (see page C-120)

Calling the Information Window

An information window shows statistical data about the documentation which is currently called. The following information is available:

- The model's title
- Creator program
- Date and time of creation
- Number of text areas, paragraphs, graphics, imports and pages (complete and after text areas have been separated)

How to proceed

To call the information window:

» Select `Extras>Information`.
You can open the information window which you can work in as usual.

C-6.1.2 Navigating in the Documentation

Documentation created by Innovator is basically split into four areas:

- Title page
- Table of Contents
- Main text
- Appendix

Various individual areas could be missing depending on documentation compilation.

Note

The numbering starts again at "1" for each of the four areas, title page, table of contents, main text and appendix.

Looking Through the Documentation

There are various options available in the preview window for conveniently navigating through the documentation and viewing the individual areas which have been generated.

You can:

- Jump to the beginning or end of the documentation
- Browse through individual pages
- Jump to the beginning or end of individual areas
- Call a specific page

How to proceed

You can use the following options to jump to a specific page in the documentation:

» To call a specific page, select `Jump>Page...`.
The dialog box of the same name opens.

» Activate the area which contains the desired page in the group box `Section`.

» Enter the number of the desired page in the field `Page number`.
To confirm your entries:

» Click on `[OK]`.

How to proceed

You can use the following options to jump to the beginning or end of the documentation.

» To jump to the end of the documentation, select `Jump>End of Document`.

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» To jump to the beginning of the documentation, select `Jump>Beginning of Document`.

How to proceed

You can use the following options to browse through individual pages:

» To flick to the next page, select `Jump>Previous Page`.
» To flick to the previous page, select `Jump>Next Page`.

How to proceed

You can use the following options to jump to the beginning or end of the area which you are currently viewing:

» To jump to the end of the current area, select `Jump>End of Section`.
» To jump to the beginning of the current area, select `Jump>Beginning of Section`.

How to proceed

You can use the following options to jump to the beginning of the next or previous area:

» To jump to the beginning of the next area, select `Jump>Next Section`.
» To jump to the beginning of the previous area, select `Jump>Previous Section`.

How to proceed

You can use the following options to jump to the first page of a given previous area.

» To jump to the beginning of the title page, select `Jump>Title`.
» To jump to the beginning of the table of contents, select `Jump>Table of Contents`.
» To jump to the beginning of the main text, select `Jump>Main Text`.
» To jump to the beginning of the appendix, select `Jump>Appendix`.

Optimizing Functions for Browsing and Viewing

There are two selection options for facilitating you when browsing through the documentation. When browsing, you can specify whether:

- Each page should be called in the same position

- "Streaks" should be avoided when the page is zoomed. This happens due to calculation inaccuracies and can be avoided by the entire window contents being created on a new page when browsing and viewing.

How to proceed

To optimize the browsing functions:

» Select `Extras>Options...`.
The dialog box of the same name opens.
So that each page is called in the same position when browsing:

» Activate the check box `Keep scroll position` in the group box `Display`.
To avoid "streaks" when the page is zoomed:

» Activate the check box `Redraw at zoomed scrolling` in the group box `Display`.
To adopt the settings and save in the `PV` section of the `inodocu1.ini` file when required:

» If necessary, activate the option button `HOME` or `INODIR` in the `group box Saving location`, depending on the writing rights granted.

» Click on `[Save]`.
To adopt the window setting without saving and closing the dialog box:
To adopt the window setting without saving and closing the dialog box:

» Click on `[OK]`.

C-6.1.3 Editing the Display

As with other Innovator windows, you can also influence the display of the preview window.

You can specify the following settings:

- Icons in the toolbar
- Options in the context-sensitive pop-up menu

There are further options available for facilitating documentation viewing.

The following display options are available:

- Display scale (zoom factor)
- Display of frames for the margins, as well as for the header and footer areas
- Activating and deactivating graphics and imports being displayed, as well as the frame around the graphic imports

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Note **The parameters for page settings and display and font scaling not only affect the display, but also documentation output. Read about this in chapter C-6.2, "Editing Output Options and Displaying Documentation", page C-122.**

Specifying the Display Scale (Zoom Factor)

You can individually specify the display scale to get a clearer overview of the display.

Note **The currently applied zoom factor for the open document can be seen in the status bar (see page C-116).**

The valid value range is between 10 and 400 percent.

How to proceed

To specify the display scale:

» Select `Extras>Options...`.
The dialog box of the same name opens.

» Activate the check box `Zoom mode` in the group box `Display`.

» Select the desired scale in the drop-down list `Zoom factor` or enter a percent as a floating-point number in the command line.
To adopt the settings and save in the `PV` section of the `inodocu1.ini` file when required:

» If necessary, activate the option button `HOME` or `INODIR` in the `group box Saving location`, depending on the writing rights granted.

» Click on `[Save]`.
To adopt the window setting without saving and closing the dialog box:

» Click on `[OK]`.

Dynamically Customizing the Display Scale

You can automatically specify the document's display scale and, in doing so, dynamically customize the respective window size.

Note **This ensures that every page is visible, as long as the lower boundary of 10 percent and the upper boundary for automatic scaling is not exceeded by 100 percent.**

How to proceed

To allow automatic specification of the display scale:

» Open the dialog box `Extras/Options`, as described on page C-120.

» Activate the check box `Zoom mode` in the group box `Display`.

» Select the auto entry in the drop-down list Zoom factor.

» Proceed as described on page C-120.

Activating and Deactivating the Zoom Factor

You can deactivate the set zoom factor at any time according to your needs and go back to the original display (zoom factor 100%), as described above. This means that settings affected by the display scale are not lost.

How to proceed

To deactivate the set scale, as described on page C-120:

» Select Extras>Switch>Zoom Mode.
The display scale changes to zoom factor 100 %.

» To display the document in the zoom factor setting as described above:

» Select Extras>Switch>Zoom Mode.
The display goes back to the set zoom factor.

Showing Margins and Areas

To make the display more clear you can make the margins and the header and footer areas visible with dotted lines.

How to proceed

To show the borders:

» Select Extras>Options..., as described on page C-120.

» Activate the check box Borders in the group box Display.
To adopt the settings and save in the PV section of the inodocu1.ini file when required:

» If necessary, activate the option button HOME or INODIR in the group box Saving location, depending on the writing rights granted.

» Click on [Save].
To adopt the window setting without saving and closing the dialog box:

» Click on [OK].

Activating and Deactivating the Borders

You can deactivate the set borders again when required, as described above.

How to proceed

To deactivate the set borders again, as described on page C-121:

» Select Extras>Switch>Borders.
The borders disappear from the display.
To show the borders again:

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» Select Extras>Switch>Borders.

Influencing Graphic and Import Display

You can select whether graphics or imports are displayed or should only appear as a text reference. It is also possible to show frames around graphic imports.

How to proceed

To show graphics and imports in the documentation display:

» Open the dialog box Extras/Options, as described on page C-120.

» Activate the check box Graphics or Imports in the group box Display.
If a frame should be defined around the graphic upon graphic import:

» Activate the check box Frames around imports in the group box Display.
To adopt the settings and save in the PV section of the inodocu1.ini file when required:

» If necessary, activate the option button HOME or INODIR in the group box Saving location, depending on the writing rights granted.

» Click on [Save].
To adopt the window setting without saving and closing the dialog box:

» Click on [OK].

C-6.2 Editing Output Options and Displaying Documentation

There are a wide variety of options available in the preview window for outputting documentation. You can edit the following settings for output:

- Page settings (see page C-123)
- Header and footer positions (see page C-125)
- Fonts (see page C-125)
- Positioning and scaling of graphics (see page C-126)

There are also various variants available for outputting documentation. The displayed documentation can be:

- Immediately printed (see page C-128)
- Converted into a PostScript file for outputting on a PostScript printer (see page C-130)
- Converted into a print file, which can be processed directly by a selected printer (see page C-130)

C-6.2.1 Specifying Page Settings

The settings for page settings not only affect documentation display in the preview window, but also documentation output.

You can specify the following:

- Page format, height and width
- Margin width
- Page set-up

You can also set these settings using the `inodocu1.ini` file. **Note**

Before making the settings for the page settings, specify the valid unit. **Setting Units**

Available units result from the entries in the `units` section in the `inounits.ini` file. **Note**

How to proceed

To specify the unit:

» Select `Extras>Options...`.
The dialog box of the same name opens.

» Select the desired unit in the drop-down list `Unit`.
To adopt the settings and save in the `PV` section of the `inodocu1.ini` file when required:

» If necessary, activate the option button `HOME` or `INODIR` in the `group box Saving location`, depending on the writing rights granted.

» Click on `[Save]`.

» Click on `[OK]` to close the dialog box and adopt the setting for the window without saving it.
The selected unit affects the selection in the `Page` dialog box described below. Depending on the selected entries, they are saved in the `PV` section of the `inodocu1.ini` file.

When specifying the page format, you can individually set the page width and height. **Specifying Page Sizes**

The pages sizes available result from the entries in the `formats` section in the `inounits.ini` file. **Note**

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How to proceed

To specify the page size:

» Select File>Layout>Page Layout....
The dialog box of the same name opens.
» Select the desired page format in the drop-down list Page size.
The width and height of the selected format are adopted in the field Page width and Page height in the unit which you specified as described above.
If you want to individually change the default dimensions:
» Enter the desired dimensions in the Page height or Page width fields respectively.
» Click on [OK] to confirm your entry and close the dialog box.

Note **The new values are adopted for the display and output.**

Setting Margins You can also individually specify the width of the margins.

How to proceed

To set the margins:

» Open the dialog box Layout/Page Layout, as described on page C-123.
» Select the desired page format in the drop-down list Page size.
The width and height of the selected format are adopted in the Page height or Page width fields in the unit which you specified as described on page C-123.
If you want to individually change the width of the margins:
» Enter the desired dimensions in the Left, Right, Top and Bottom fields respectively in the group box Margin.
» Click on [OK] to confirm your entry and close the dialog box.
The new values are adopted for the display and output.

Specifying Page Set-Up You can also specify the page set-up.

How to proceed

To set the set-up:

» Open the dialog box Layout/Page Layout, as described on page C-123.
» Activate either option button Portrait or Landscape in the group box Alignment for the desired set-up.

» Click on [OK] to confirm your entry and close the dialog box.
The set-up is adopted for the display and output.

C-6.2.2 Editing Header and Footer Positions

You can specify the distance of the header and footer from the top or bottom page margin.

How to proceed

To specify the distance of the header and footer:

» Open the dialog box Layout/Page Layout, as described on page C-123.
» Enter the desired distance from the top or bottom page margin in the Header or Footer fields in the unit which you specified as described above.
» Click on [OK] to confirm your entry and close the dialog box.
The new values are adopted for the display and output.

C-6.2.3 Specify Fonts

You can select the font for various text areas, such as headers and footers or headings, for documentation display and output in the preview window. It is also possible to enter the width and distance of underlines.

The available fonts result from the entries in the inofont.ini file. **Note**

You can assign fonts to specific text areas. **Assigning Fonts**

How to proceed

To assign fonts:

» Select File>Layout>Fonts....
The dialog box of the same name opens.
» Select the specification type from the drop-down list Text style which you want to assign a new font to.
» Select the font from the drop-down list Font which you want to assign to the selected specification type.
» Click on [Assign] to assign the font.

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» Click on [OK] to adopt your settings and close the dialog box.
Depending on the setting made, the new font is applied to the specification type.

Editing Underlines

You can assign underlines to text areas and specify width and distance for them.

Note

The permissible values for the underlines' width and distance are between 0 to 5 or -5 to 5 points.

How to proceed

To edit the underlines:

» Open the dialog box Layout/Fonts, as described on page C-125.
» Select the specification type as described above and, if applicable, a new font.
» Enter a value between 0 and 5 in the field Width if you want to change the width of the underline.
» Enter a value between -5 and 5 in the field Distance if you want to specify the distance of the underline.
» Click on [Assign].
The values are assigned.
» Adopt the settings and close the dialog box with [OK].
Depending on the setting made, the values for the underlines are applied to the selected text area.

C-6.2.4 Positioning and Scaling Graphics

Various options are available to you for editing graphics. You can specify the following:

- The distance of the absolute positioned graphics to the top page margin
- The scaling factors for graphics

Note

Specification of the distance of absolute positioned graphics affects the automatic scaling of graphics in the main text, i.e. the smaller the specified distance, the larger the graphics and vice versa.

Positioning Graphics

You can specify the distance of the absolute positioned graphics from the top text margin.

How to proceed

To specify the distance:

» Select File>Layout>Page Layout....
The dialog box of the same name opens.
» Enter the desired distance from the top text margin in the group box Distance or field Graphics in the unit which you specified before (see page C-123).
» Close the dialog box with [OK].
The new values are adopted for the display and output.

Scaling Graphics

You can set factors for scaling graphics in the main text and appendix. You can individually specify horizontal and vertical factors in portrait and landscape for the various text areas using floating-point numbers.

Note

The permissible values for the scaling factors are between 20 and 300 percent.

How to proceed

To specify the scaling factor for graphics:

» Select File>Layout>Scales....
To scale graphics in the main text:
» Enter the desired value for graphics in portrait or landscape in the group box Main text in the group box Portrait or Landscape respectively and in the Horizontal or Vertical fields for horizontal or vertical scaling.
To scale graphics in the appendix:
» Enter the desired value for graphics in portrait or landscape in the group box Appendix in the group box Portrait or Landscape respectively and in the Horizontal or Vertical fields for horizontal or vertical scaling.
» Close the dialog box with [OK].
The set values are adopted for the display and output.

C-6.2.5 Saving Output Options

The output options which you made in the Page, Fonts and Scaling dialog boxes can be saved in the RG section of the inodocu1.ini file.

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How to proceed

To save the output options:

» Select File>Layout>Save....
The dialog box of the same name opens.
» Select which dialog box you want to save the specific output options in in the list box Layout.
» If necessary, activate the option button HOME or INODIR in the group box Saving location, depending on the writing rights granted.
» Close the dialog box with [OK].
The entries are applied.

C-6.2.6 Unsuppressing Documentation on a Printer

Various options are available to you for outputting the documentation displayed in the preview window. The displayed documentation can be:

- Printed directly (see page C-128)
- Converted into a PostScript file for outputting on a PostScript printer (see page C-130)
- Converted into a print file, which can be processed directly by a selected printer (see page C-130)

Directly Printing Documentation

You can print the documentation displayed in the preview window directly from the preview window. You can select whether you want to print the entire document or only a sub-area of an opened documentation.

How to proceed

If you want to print the documentation:

» Select File>Print....
The dialog box of the same name opens.
» Activate the option button Printer in the group box Kind of output.
When the drop-down list Printer is first opened, the dialog box which is installed as default printer on the system appears. If you want to use another printer for output which is installed on the system:
» Select the desired printer in the drop-down list Printer.
» Specify the print size, as described below, and start printing.

Setting the Print Size

Depending on whether you want to print the entire document or only a sub-area, the appropriate alternatives need to be activated.

You can make the following constraints:

- Entire document
- Current page
- Title page
- Table of contents, main text or appendix areas
- A specific page area within these areas

How to proceed

To set the print size:

» Activate the group box `Range` in the dialog box `File/Print` for
  - The entire document, the `option button Whole document`
  - The current page displayed, the `option button Current page`
  - The title page, the `option button Title`
  - The entire table of contents, the `option button TOC`
  - The entire main text, the `option button Main text`
  - The entire appendix, the `option button Appendix`

  If you have entered that you only want to print a certain area of the documentation (as described above), you can also set that only a certain part of the selected area is to be printed.
» Enter the page number of the page which printing should start from in the group box `Pages` in the field to the right next to the `From`.
» Enter the page number of the page which printing should end at in the field to the right next to the `To`.

Now start printing.

Starting Printing

How to proceed

To print the document according to the junctions set by you:

» Click on `[Execute]`.
  Depending on which junctions you specified, either the entire document is printed from the printer selected by you or just a part of the document is printed.
  If you save the settings made for later use when printing and want to close the dialog box without starting to print:
» Click on `[OK]`.
  the dialog box closes, the setting made are valid for printing at a later stage (see page C-128).

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Directly and Immediately Printing Documentation

You can also print the documentation displayed in the preview window directly and immediately from the preview window. Either the default values predefined by the system are used or the settings which you made earlier, as described above in the dialog box `File/Print`.

How to proceed

To immediately print the documentation:

» Select `File>Print Immediately`.
Depending on which settings you specified in the dialog box `File/Print`, the documentation is either printed according to these parameters or using default settings.

Displaying Documentation as PostScript Documents

You can display the documentation which can be directly output on a PostScript printer as a PostScript documentation in the preview window.

How to proceed

To unsuppress the documentation as a PostScript document:

» Open the dialog box `File/Print`, as described on page C-128, and enter which part of the documentation you want to display, if applicable.

» Activate the option button `PostScript document` in the group box `Kind of output`.
The name of the documentation along with its complete path appears in the field `Output file`. The `.ps` file name extension for PostScript documents is automatically added.
If the documentation should be displayed in another PostScript documentation:

» Enter the name and path of the desired document in the field `Output file` and click on `[Select]`.
The dialog box `Select Output File` appears; you can use this to specify the name and path of the PostScript document.

» Confirm your entries by clicking on `[Save]`.

» Click on `[Execute]`.
Depending on which options you specified, either the entire document is unsuppressed in the PostScript document selected by you or just a part of the document is displayed. This can be directly output on a PostScript printer.

Displaying Documentation as Print Files

You can display documentation as print files. A file is created which can be processed directly by a selected printer.

How to proceed

To convert the documentation into a print file:

» Open the dialog box `File/Print`, as described on page C-128, and enter which part of the documentation you want to display, if applicable.

» Activate the option button `File` in the group box `Kind of output`.
When the drop-down list `Printer` is first opened, the dialog box which is installed as default printer on the system appears. If you want to use another printer for output which is installed on the system:

» Select the desired printer in the drop-down list `Printer`.
The name of the documentation along with its complete path appears in the field `Output file`. The `.prn` file name extension is automatically added.
If the documentation should be displayed in another file:

» Enter the name and path of the desired file in the field `Output file` and click on `[Select]`.
The dialog box `Select Output File` appears; you can use this to specify the name and path of the file.

» Confirm your entries by clicking on `[Save]`.

» Click on `[Execute]`.
Depending on which options you specified, either the entire document is displayed in the file selected by you or just a part of the document is displayed. This file can be printed directly from the selected printer.

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C-7 Organizing Documentation Layout

You can basically design your model documentation layout and change it for precise cases when creating documentation.

Before possibly displaying model documentation in another program and editing it there (see chapter C-5.3, page C-99), you can edit the documentation layout in the following Innovator applications:

- Specification editor (see chapter C-8, "Dot Commands and Parameters in Documentation", page C-151)
- Documentation editor (`inodtree.exe`)
- Documentation generator (`inodocu.exe`)
- Preview window in the model browser

You can use the layout to influence how the following components appear in the documentation:

- Title page (see page C-134)
- Headers and footers (see page C-135)
- Headings (see page C-137)
- Paragraph formats (see page C-141)
- Page breaks (see page C-141)
- Graphics (see page C-142)
- Page settings (see page C-147)
- Fonts (see page C-147)
- Index entries (see page C-148)
- Empty chapters and selection points (see page C-148).

C-7.1 Editing Title Pages, Headers, Footers, Headings

You can make some layout settings in both the documentation's overview tree and structure tree, as well as in the preview window for the following documentation's elements:

- Title page
- Headers
- Footers

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- Headings

Note **You can use wildcards when formulating title pages, headers and footers; these can be replaced by current values in the documentation (see chapter C-8.2, "Parameters in Documentation", page C-158). Various dot commands are also supported during graphics import (see chapter C-8.1, "Using Dot Commands", page C-151).**

C-7.1.1 Creating and Organizing Title Pages

Creating and Organizing Title Pages

You can organize the title page when creating the documentation repository in the documentation editor.

Note **You can specify the desired title page for the model documentation in the selection (see C-3.3, "Combining the Documentation Foundation in a Selection", page C-66).**

Creating or Copying Title Pages

You can create the title page for your model documentation as a node in the documentation's overview tree in the first step or copy a title page which has already been created and then change it to suit your needs. In this way, you can create various title page variants.

How to proceed

To create a title page:

» Select the `Title Page` default node in the documentation editor's overview tree and proceed as described in the section "Creating Nodes in the Overview Tree", page C-46.

How to proceed

To copy a title page:

» Select the title page which you want to copy in the overview tree and proceed as described in the section "Copying Nodes in the Overview Tree", page C-47.

Organizing Title Pages

An Innovator's title page is split into three sections. You can separately enter text into the top, center and lower areas and specify whether this should be left-aligned, centered or right-aligned in the documentation.

How to proceed

To organize the title page:

» Select the title page in the overview tree which you want to edit.
» Select `Edit>Properties`.
The dialog box of the same name appears.
» If applicable, enter a new name for the title page in the field `Name`.
» Enter the text which should appear on the title page in the appropriate position in the `Top`, `Center` or `Bottom` text boxes as desired. You can also import graphics using dot commands (see page C-155).
To align the respective entries to the left, center or right:
» For each text area in the appropriate group box `Alignment`, activate the option button `Left`, `Centered` or `Right`.
» Confirm your selection with `[OK]`.

Specifying Fonts for Title Pages

If you view and edit generated documents in the preview window using the documentation generator, you can specify the font for the title page for documentation display and output. It is also possible to enter the width and distance of underlines (see chapter C-6.2.3, "Specify Fonts", page C-125).

Note

The available fonts result from the entries in the `inofont.ini` file.

C-7.1.2 Editing and Organizing Headers and Footers

You can organize the headers and footers when creating the documentation repository in the documentation editor.

Note

Headers are pre-allocated with default texts. They are created in the language you specified in the documentation editor under `Structure>Select Language...` (see chapter C-3.1.5, "Specifying Languages for Documentation Output", page C-45).

Creating or Copying Headers and Footers

In the first step, create or copy the headers or footers for the three areas, main section, table of contents and appendix of your model documentation in the documentation's overview tree. You can then make changes as and when required. In this way, you can create various header and footer variants.

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Note **You can specify the desired headers and footers for the model documentation in the selection (see C-3.3, "Combining the Documentation Foundation in a Selection", page C-66). To do this, you need to enter which area of the model documentation a header or footer should be used for.**

How to proceed

To create a header or footer:

» Select the `Header` or `Footer` default node in the documentation editor's overview tree and proceed as described in the section "Creating Nodes in the Overview Tree", page C-46. For a header in the dialog box `Structure/New Entry` group box `Usage`, activate the alternative for the text area which the header should be used for.

How to proceed

To copy a header or footer:

» Select the header or footer which you want to copy in the overview tree and proceed as described in the section "Copying Nodes in the Overview Tree", page C-47.

Organizing Headers and Footers

Headers and footers in an Innovator documentation are split into three sections. If you want to edit headers or footers or create them as variants, enter what should be in the left-hand, center and right-hand areas of the respective lines and whether they should appear separated from the main text by a separation line.

Ensure that the headers are pre-allocated with default values–dependent on the target language set and the selected use of headers–when creation takes place. Innovator uses the following settings for this:

- For headers for the main section:
  - On the left margin, the `$(date)` pre-allocation for the date which the documentation was created on.
  - In the center, the `$(type) $(name)` pre-allocation for the type and name of documentation.
  - On the right margin, the `Page $(page)` pre-allocation for continuous page numbering. The prefix `Page` is displayed instead of `Seite` for English language documentation.
- For headers for the table of contents:
  In the center, the `$(page)` pre-allocation for continuous page numbering.
- For headers for the appendix:
  In the center, the `- Appendix $(page)-` pre-allocation for continuous page numbering.

Note

Variables and dot commands used for headers and footers can be found in chapter C-8.2, "Parameters in Documentation", page C-158 and chapter C-8.1, "Using Dot Commands", page C-151.

You can also specify whether the header or footer should be separated from the main body of text by a separation line.

How to proceed

To organize a header or footer:

» Select the header or footer in the overview tree which you want to edit.

» Select `Edit>Properties`.
The dialog box of the same name appears.

» If necessary, enter a name in the field `Name`.

» Enter the text which should appear in the header in the appropriate position in the `Left`, `Center` or `Right` text boxes as desired.
If you want the header or footer to be separated from the main body of text by a separation line:

» Activate the check box `Separation line`.

» Confirm your selection with `[OK]`.

Editing Header and Footer Positions in the Preview Window

If you view and edit generated documents in the preview window before output using the documentation generator, you can specify the distance of the header or footer from the top or bottom page margin (see chapter C-6.2.2, "Editing Header and Footer Positions", page C-125).

Specifying Fonts for Headers or Footers in the Preview Window

If you view and edit generated documents before output in the preview window using the documentation generator, you can specify the font for the headers or footers for documentation display and output. It is also possible to enter the width and distance of underlines (see chapter C-6.2.3, "Specify Fonts", page C-125).

Note

The available fonts result from the entries in the `inofont.ini` file.

C-7.1.3 Organizing Headings

You can edit the headings of individual chapters in the documentation's structure tree.

You can:

- Rename headings
- Give headings variables

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- Number headings in various ways
- Hide headings

You can also transform headings into line lists in the `inodocu.exe` documentation generator.

Note **The status bar for each selected selection point can be seen in the structure tree and contains information about:**
- The heading level
- Whether the numbering should be activated or deactivated
- The type of numbering
- Whether the heading should be displayed or suppressed
(see section "Using Information about the Structure Tree", page C-54).

Renaming Headings

You can rename the selection points in documentation editor's structure tree and, in doing so, change the headings of the individual chapters. This means that chapter headings from the default selection points to level 2 can contain variables, such as `$(name)`. You can find additional wildcards in the chapter C-8.2, "Parameters in Documentation", page C-158.

How to proceed

To rename a heading:

» Select the heading in the structure tree which you want to rename.

» Select the menu item `Edit>Properties`.
The dialog box of the same name appears.

» Jump to the tab `Name`.
The current heading appears in the group box `Current heading`. The variables allocated as default for this heading and their meanings appear below this in two columns.

» Enter a new heading in the field.
If you want to use the variables offered:

» Select the desired variable and click on `[Insert]` or `[Append]`.
The desired variable is inserted at the insertion point or at the end of the heading.

Note **The `[Insert]` and `[Append]` buttons are deactivated if no variables can be inserted.**

To confirm your selection:

» Click on `[OK]`.
The selected heading appears in the structure tree with a new name.

Note

If you want to rename headings from external chapters, the info field `Original heading` appears under the field `Current heading`. The chapter's original heading appears as it is used in the `documentation editor's` overview tree. The chapter's original heading in the overview tree is not influenced if the heading is renamed in the structure tree.

Activating and Deactivating Heading Numbering

You can also specify whether heading numbering should be activated or deactivated for a chapter and all of its sub-chapters in the documentation editor's structure tree. Depending on which setting you choose, the continuous numbering of the other following chapters in the structure tree is automatically updated.

How to proceed

To activate continuous numbering for a chapter and its sub-chapters:

» Select level 1's selection point of the desired chapter.

» Select `Edit>Properties...`.
The dialog box of the same name opens.

» Jump to the tab `Paragraph Format`.

» Activate the check box `Number` in the group box `Number format`.
To deactivate the numbering:

» Deactivate the check box `Number` in the group box `Number format`.
To close the dialog box and confirm your changes:

» Click on `[OK]`.
Depending on which selection you made, numbering is activated or deactivated for the headings.

Note

To (de)activate numbering for external chapters you need to select the tab `Name`.

Specifying the Type of Heading Numbering

You can specify the numbering format in the documentation editor's structure tree. the selected numbering format always affects the subordinate chapter heading of a selected selection point.

Note

You can only specify the type of heading numbering if numbering is activated for the selected selection point.

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How to proceed

To specify the type of numbering of headings in the first level:

» Select level 0's selection point (e.g. [SA/SD structure]).
To select the type of numbering of headings in a selection point:
» Select the desired selection point.
» Select Edit>Properties....
The dialog box of the same name opens.
» Jump to the tab Paragraph Format.
» Activate the desired numbering type in the group box Number format.
To confirm your selection:
» Click on [OK].
The subordinate selection points of the selected selection point are serially numbered according to your selection.

Note **You can get an overview of a documentation's chapter structure with the set numbering in the structure tree (see section "Displaying Documentation Outline", page C-55).**

Suppressing Headings

You can suppress a selection point's heading so that it is not included in the documentation. The contents of the respective chapter is kept for the documentation and becomes part of the chapter above (see section "Suppressing Headings", page C-58).

Converting Chapter Headings to Line Lists in the Documentation Generator

You can set to what extent the main chapter should be shown in line lists upon documentation output in the inodocu.exe documentation editor.

You can set:

- Main chapters (which have a variable such as $(name)) which were not set sub-chapters in the structure tree to be displayed as line lists.
- Both main chapters which didn't have any sub-chapters set for them in the structure tree and have main chapters which have sub-chapters, but which wouldn't have any in the result document due to the modeled data, to be displayed as line lists.

Read about this in section "Converting Chapter Headings in Bullet Point Lists", page C-99.

C-7.2 Editing Paragraph Formats and Page Breaks

You can also influence paragraph formatting of chapters in the structure tree.

You can set the following:

- Paragraph justification
- Page break position

Note

The status bar for each selected selection point can be seen in the structure tree and contains information about:
- Paragraph justification
- Page break position
(see section "Using Information about the Structure Tree", page C-54)

C-7.2.1 Editing Paragraph Formats

You can edit the paragraph justification for text chapters in the structure tree and, in doing so, format text.

The following justifications are available:

- Default
- Unformatted
- Left
- Centered
- Right
- Both

Note

The formats entered here can also be specified using appropriate dot commands (see chapter C-8.1, "Using Dot Commands", page C-151). If these are interspersed in a chapter's text, they have priority over the format settings in the dialog box. Direct commands can, therefore, not be changed or canceled by the commands in the dialog box `Edit/Properties`**.**

How to proceed

To edit the paragraph justification of text chapters:

» Select the desired selection point in the documentation's structure tree.

» Select `Edit>Properties...`.
The dialog box of the same name appears.

» Jump to the tab `Paragraph Format`.

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» Activate the desired alternative in the group box `Paragraph justification`.

» Confirm your entry with `[OK]`.

C-7.2.2 Editing Page Breaks

You can specify the page breaks for individual selection points in the documentation editor's structure tree. You can select whether you:

- Want a selection point to start on a new page
- Want a subsequent selection point to start on a new page

How to proceed

To specify the page breaks for selection points:

» Select the appropriate selection point in the documentation editor's structure tree.

» Select `Edit>Properties...`.
The dialog box of the same name appears.

» Jump to the tab `Paragraph Format`.
If the selection point should start on a new page:

» Activate the check box `Before` in the group box `Page break`.
A page break occurs before the selected selection point upon documentation output.
If a page break should be inserted before the subsequent selection point:

» Activate the check box `After` in the group box `Page break`.
A page break occurs after the selected selection point or before the subsequent selection point upon documentation output.

» Confirm your entry with `[OK]`.

C-7.3 Editing Graphics Displays

You can edit how graphics are displayed in both the documentation's structure tree and the preview window. You can specify the following:

- Positioning of graphics
- Scaling of graphics
- Orientation of graphics
- Picture properties

C-7.3.1 Positioning Graphics

Note

The status bar for each selected selection point can be seen in the structure tree and contains information about:
- Positioning of graphics
(see section "Using Information about the Structure Tree", page C-54).

Specifying Paragraph Positions for Graphics

You can position chapters which contain graphics in the documentation's structure tree for outputting. You can specify the following paragraph positions:

- `Inline`: Graphics are printed directly beneath the previous text
- `Centered`: Graphics are centered, followed by a page break
- `Absolute`: Graphics are shown with a fixed vertical position, followed by a page break
- `Appendix`: Graphics are printed as an appendix.

How to proceed

To position a graphic:

» Select the appropriate selection point which contains a graphic in the structure tree.

» Select `Edit>Properties...`.
The dialog box of the same name appears.

» Jump to the tab `Graphic`.
Activate the radio button for the paragraph position which the graphic should be displayed in in the group box `Paragraph position`.

» Confirm your entry with `[OK]`.

Positioning Graphics in the Preview Window

If you want to view and edit the generated documentation in the preview window, you can specify the distance of the absolute positioned graphics from the top text margin (see chapter C-6.2.4, "Positioning and Scaling Graphics", page C-126).

Note

Specification of the distance of absolute positioned graphics affects the automatic scaling of graphics in the main text, i.e. the smaller the specified distance, the larger the graphics and vice versa.

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C-7.3.2 Scaling Graphics

Manually Scaling Graphics

You can specify whether chapters in the structure tree which contain graphics should be scaled upon output and with which factor (percent) this should be done with. You can enter the appropriate factors for each respective graphic in portrait or landscape.

Note

The valid values are floating-point numbers between 10 and 400 percent. The predefined `auto` value effects a scaling adapted for the selected layout; the highest number this will display is 100% (see section "Uniformly and Individually Scaling Graphics", page C-144).

How to proceed

To scale a graphic:

» Select the appropriate selection point which contains a graphic in the structure tree.

» Select `Edit>Properties...`.
The dialog box of the same name appears.

» Jump to the tab `Graphic`.
If you want to specify the scaling factor for a graphic in **Portrait**:

» Enter the desired scaling factor as a floating-point number in the group box `Picture scaling` in the field `Portrait`.
If you want to specify the scaling factor for a graphic in **Landscape**:

» Enter the desired scaling factor as a floating-point number in the group box `Picture scaling` in the field `Landscape`.

» Confirm your entry with `[OK]`.

Uniformly and Individually Scaling Graphics

As described in section "Manually Scaling Graphics", page C-144, you can specify whether chapters in the structure tree which contain graphics should be scaled upon output and with which factor this should be done with. You can enter the appropriate scaling factors for each respective graphic in portrait or landscape.

On the other hand, for automatic scaling of graphics, you can specify whether

- A predefined default value which is adapted to the selected layout should apply to **all** graphics
- The optimum scaling should be identified for each individual graphic

How to proceed

To automatically and individually scale graphics:

» Select the selection point in the structure tree whose graphics you want to scale.
» Select `Edit>Properties...`.
The dialog box of the same name appears.
» Jump to the tab `Graphic`.
If you want to set the automatic scaling factor for graphics in portrait or landscape:
» Leave the `auto` entry in the `Portrait` or `Landscape` fields in the group box `Picture scaling` or enter one if applicable.

How to proceed

If you want each graphic, which has the `Picture scaling` attribute of the assigned default selection point set to the `auto` value, to be automatically scaled to the optimum size:

» Activate the check box `Auto scale individually` in the group box `Picture properties`.
To close the dialog box and confirm the entries:
» Click on `[OK]`.

Scaling Graphics in the Preview Window

If you want to view and edit the generated documentation in the preview window, you can set the factors for scaling of graphics in the main text and appendix (see chapter C-6.2.4, "Positioning and Scaling Graphics", page C-126).

C-7.3.3 Rotating Graphics

Graphics which are created in landscape can be rotated in the documentation for output.

How to proceed

To rotate graphics:

» Select the appropriate selection point which contains a graphic in the structure tree.
» Select `Edit>Properties...`.
The dialog box of the same name appears.
» Jump to the tab `Graphic`.

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» Activate the check box `Rotate landscape orientation` in the group box `Picture properties`.

To close the dialog box and confirm the entries:

» Click on `[OK]`.

C-7.3.4 Collating Multi-Paged Graphics

Graphics which are generated by Innovator which assume more than one page due to their layout settings in the diagram or table editor can be displayed on one single page (see section "Collating Multi-Paged Graphics", page C-97).

This option does not apply for graphics in SVG and EMF vector formats, as these graphics are always scaled to one single page.

C-7.3.5 Editing Graphic Information Blocks

You can edit the contents of the graphic information blocks in the structure tree. You can specify whether the following information should appear:

- Object's name
- Object's history
- Object labels

Note **A prerequisite for displaying history and labels is that the option for the object names needs to be set.**

How to proceed

To edit the graphics information block:

» Select the appropriate selection point which contains a graphic in the structure tree.

» Select `Edit>Properties...`.

The dialog box of the same name appears.

» Jump to the tab `Graphic`.

If the object name should appear in the information block:

» Activate the check box `Show name` in the group box `Picture properties`.

If the selection was made, you can specify whether the history and the object labels should also appear.

If the history should also appear in the information block:

» Activate the check box `Show history` in the group box `Picture properties`.
If the object labels should also appear in the information block:
» Activate the check box `Show labels` in the group box `Picture properties`.
To close the dialog box and confirm the entries:
» Click on `[OK]`.

C-7.4 Specifying Page Settings and Text Formats

Specifying Page Settings

If you view and edit generated documents in the preview window using the documentation generator, you can edit the page settings for documentation output (section "Specifying Page Settings", page C-123).

You can specify the following:

- Page format, height and width
- Margin width
- Page set-up

Note

You can also set these settings using the `inodocu1.ini` file.

Formatting Text

Innovator has various dot commands available for formatting texts. You can use these for formatting when entering texts from model components, such as processes, terminators, attributes or data elements, as well as external chapters. You can find a list of available dot commands in chapter C-8.1, "Using Dot Commands", page C-151.

Specifying Fonts in the Preview Window

If you view and edit generated documents in the preview window, you can select the font for the main text and title page (see page C-135), as well as for headers and footers (see page C-137) for documentation display and output.

You can also specify the width and distance for the underlines (see chapter C-6.2.3, "Specify Fonts", page C-125).

Note

The available fonts result from the entries in the `inofont.ini` file.

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C-7.5 Setting Formats for Index Entries

You can specify the desired formats for the model documentation in the selection (see C-3.3, "Combining the Documentation Foundation in a Selection", page C-66).

You can set the format of index entries and make specifications so that the following information about a model element appears in the documentation's index:

- Name of the model element
- Type of model element
- Path of the model element

The `$(e.name)` variable identifies the name, the `$(e.type)` the type and the `$(e.path)` the path of the model element.

Settings for model elements without a path are stored in the `Index Entry Format 1` setting; settings for model elements with a path are stored in the `Index Entry Format 2` setting.

Note **Settings in the `inodocu2.ini` parameter file have priority over the settings in this dialog.**

How to proceed

To set or change the index entry format:

» Select the model node beneath the `Settings`

» Select `Edit>Properties...`.
The dialog box of the same name appears.

» Select the format in the `list box Name` which you want to change. If applicable, change the settings in the field `Value`.

» Close the dialog box with `[OK]`.

C-7.6 Hiding Empty Chapters and Selection Points

When editing documentation, you can:

- Suppress output of empty chapters
- Hide the default level's selection points and their refinements

Suppressing Output of Empty Chapters

The heading and an entry in each table of contents and index appear as standard in the documentation created for empty main chapters for the model components.

Before documentation generation, you can use the documentation generator to make specifications so that this empty chapter will be suppressed in the documentation (see page C-97).

Hiding Selection Points

So that the a selection point in the default level, including its refinements, is not included in the documentation, you need to hide it in the structure tree (see page C-60).

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C-8 Dot Commands and Parameters in Documentation

You can organize documentation layout using a wide variety of dot commands for formatting text. There are also various variables available which are replaced by current values during documentation output.

C-8.1 Using Dot Commands

You can use dot commands for formatting entered text in model documentation when entering specifications about model components, such as processes, terminators, attributes or data elements, as well as external chapters.

Dot commands need to be at the beginning of their own line before the text to be formatted. **Note**

The subsequent list contains the available commands and their corresponding effects.

C-8.1.1 Formatting Paragraphs

You can use the following dot commands to format paragraphs.

Each dot command ends a probable previously available paragraph. **Note**

Two consecutive word-wraps, which can be seen as empty lines in the editor, end a paragraph and begin a new one if more text ensues.

Effect: `.U`

- The following text remains unformatted until a new command occurs. Lines which are particularly long are wrapped accordingly.
- A monospace font is used after this command. This means that tables can also be displayed.

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- Individual word-wraps, as well as multiple consecutive spaces and leading spaces remain unchanged.

`.S` **Effect:**

As with the `.U` command, only a proportional font is selected.

`.L` **Effect:**

- The following text will be formatted as left-aligned.
- Individual word-wraps are ignored and the lines are automatically wrapped as soon as the available text width is achieved.
- Consecutive spaces are replaced by individual ones.
- Spaces at the beginning or end of the line are ignored.

`.C` **Effect:**

- The following text will be formatted as centered.
- Individual word-wraps are ignored and the lines are automatically wrapped as soon as the available text width is achieved.
- Consecutive spaces are replaced by individual ones.
- Spaces at the beginning or end of the line are ignored.

`.R` **Effect:**

- The following text will be formatted as right-aligned.
- Individual word-wraps are ignored and the lines are automatically wrapped as soon as the available text width is achieved.
- Consecutive spaces are replaced by individual ones.
- Spaces at the beginning or end of the line are ignored.

`.B` **Effect:**

- The following text will be formatted as justified.
- Individual word-wraps are ignored and the lines are automatically wrapped as soon as the available text width is achieved.
- Consecutive spaces are replaced by individual ones.
- Spaces at the beginning or end of the line are ignored.

C-8.1.2 Setting Page Breaks

`.P` **Effect:**

Page break before the following text. The formatting type currently set remains uninfluenced.

C-8.1.3 Suppressing Text

Effect: `.H`

The following text is displayed in the documentation until a new dot command occurs.

C-8.1.4 Converting Special Characters

`.character set <Charset>` `.character set`

Effect:

The following text contains special characters from character sets marked with the dot command; these can be converted accordingly upon documentation creation. Permissible character sets are `437` (IBM-437), `819` (ANSI), `850` (IBM-850) and `1051` (Roman-8).

C-8.1.5 Editing Enumerations

`.list [<Numbering>]` `.list`

Effect:

Identifies the beginning of an enumeration list. Permissible values for numbering types are `1` (Arabic from 1), `0` (Arabic from 0), `I` (Roman capital), `i` (Roman lower-case), `A` (Capital letters) and `a` (Lower-case letters). If these specifications are missing, the value `1` is used. A maximum of two enumerations can be nested.

Effect: `.end list`

Identifies the end of an enumeration list.

`.item [<Text>]` `.item`

Effect:

Identifies the beginning of an enumeration list within an enumeration list. The optional text is displayed as a stopper to the left of the actual enumeration point's text and should be as short as possible. Existences of the `$(number)` variable are replaced by the enumeration point's numbers which are automatically carried; the numbering type is also taken into consideration. The following enumeration point's text which is on the line with the dot command is indented to the right according to the enumeration list's nesting depth.

Effect: `.end item`

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Identifies the end of an enumeration point within an enumeration list. Each named dot command, apart from this sub-chapter, also ends an enumeration point.

C-8.1.6 Identifying Conditional Text Areas

`.if` `.if [not] <condition>`

Effect:

Identifies the beginning of a text area which is only taken into consideration by certain output formats. The condition results in the enumeration of the desired output format being separated from each other by spaces. The optional keyword `not` negates the condition in such a way that it does not affect the enumerated output formats. The IDs for the output format are `PS` (PostScript file), `PV` (preview window), `WW` (Word for Windows document), `AT` (ASCII text file) and `XML` (XML file), (see chapter C-5.1.2, "Using Documentation Generator Parameters Under Windows", page C-91).

Note **Conditional text areas cannot be nested; various conditions should be used one after another instead.**

`.else` **Effect:**

Identifies the beginning of a text area for one corresponding `.if` command which is only taken into consideration if the conditions are not met. The `.else` command is optional. A `.else if` dot command is not provided.

`.end if` **Effect:**

Identifies the end of a conditional unsuppressed text area for one corresponding `.if` or `.else` command.

Note **When using certain dot commands which are not supported for all output formats, conditional text areas are a good idea, e.g. the `.insert` and `.link` commands. If these are encapsulated in appropriate conditions, error messages do not occur during documentation output with the `inodocu.exe` documentation generator if an output format which did not support these dot commands was selected.**

C-8.1.7 Specifying Languages for .import Commands

`.language <language>` `.language`

Effect:

Set the language to be used for the following `.import` command, so that decimal points included in size specification are also recognized as such. This command is necessary if the `inodocu.exe` documentation generator's language deviates from the language used for size specification. Permissible languages are e.g. `de_de` or `en_us`.

C-8.1.8 Importing Graphics

`.import <file name> <width1> <height1> [<width2> <height2>]` `.import`

Note

If one of the file names entered in a dot command (`.import` and `.include`) has no path, the file will also be looked for in directories outside of the current working directory which have the `Search path` entry in the `Settings` section of the `inodocu1.ini` file.

Effect:

The graphic with the entered file name is imported at this point.
The graphic's file name must include a file name extension so that the graphic format is recognized. After the file name, enter the graphic's width and height in the documentation and, as an optional extra–e.g. for Word for Windows–the graphic's original size. The width and height should be entered as floating-point numbers followed by a space and then the unit. Values between 5 mm and 50 cm are permissible. The units entered in the `inounits.ini` file are supported. A possible value would therefore be e.g. `5.8 cm`.

Note

Directory specifications included in the file name in documentation in ASCII text format are cut if applicable. This behavior can be modified using the `keep file paths` entry in the relevant section in the `inodocu1.ini` file.

Effect of Size Specification

The effect size specifications have on documentation appearance of imported graphics depends on the output format selected:

- The size of the graphics is taken directly from the first value pair for documentation in **PostScript format** if only this is entered. If both value pairs are given, the size of the graphic is taken from its actual size and the mean value of the page aspect ratios of both value pairs.

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- The size of the graphic is taken from its actual size and the page aspect ratios of both value pairs for MS Word for Windows format. If only a value pair is entered, the graphic is displayed in its actual size, independent of the values entered. This means that only the page aspect ratio of the value pair entered influence the way the graphic is displayed, but not the absolute value of the given size.
- The sizes entered in ASCII text and XML format are adopted directly in the text output file. Further processing is then carried out by the filter program; it converts this text output file into another format or into the actual target application.

C-8.1.9 Importing ASCII Files

`.include` `.include <file name> [<charset>]`

Note **If one of the file names entered in a dot command (`.import`, `.insert` and `.include`) has no path, the file will also be looked for in directories outside of the current working directory which have the `Search path` entry in the `Settings` section of the `inodocu1.ini` file.**

Effect:

The designated ASCII file is imported at this point. The character set (`437`, `819`, `850` or `1051`) entered is used (optional).

C-8.1.10 Inserting Documents

`.insert` `.insert <file name> [<bookmark>]`

Effect:

The document entered is inserted at this point. Bookmark specifications are only inserted into bookmark-designated areas (optional).

Note **This dot command is only permissible for ASCII, Word and XML documentation.**

C-8.1.11 Inserting External Objects

`.object` `.object "<data class>" [<path>/]<object name> ["<component name>"]`

This entry can be automatically created in the specification editor using the `Edit>Insert External Object...` menu item (see chapter C-2.3.4, "Integrating External Objects", page C-24).

Note

Effect:

The named external object of the given class is inserted at this point. The optional path is entered relative to the Lifelink root. If a component's name is entered, only the data assigned to it is taken into consideration.

C-8.1.12 Distributing Formatting Using Structure Tree Priority

Effect:

`.reset`

The following text is formatted with the predefined settings in the structure tree. The formatting which was set using dot commands is reversed by this.

C-8.1.13 Valid Dot Commands for Title Pages, Headers and Footers

The following dot commands are also permissible in texts from title pages, headers and footers:

- `.language`
- `.import`
- `.if`
- `.else`
- `.end if`

The dot commands need to be right at the beginning of the respective area, with the exception of the `.import` commands, which can have a `.language` command in front them. If further text follows these dot commands, this is ignored.

Example

```
.if not WW AT
.language en_us
.import logo.png 1.2 cm 1.2 cm
.else
.language de_de
.import logo.png 1.2 cm 1.2 cm 0.6 cm 0.6 cm
.end if
```

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C-8.2 Parameters in Documentation

Various elements of the same type, but with different contents and instances are normally specified in a model documentation. Examples include the list of stores in SA/SD documentation or the list of data elements in ERM documentation. This means that **variables** need to be created for defining such lists, which can then assign the current value to an appropriate position.

C-8.2.1 General Variables in Model Documentation

The following is a list of variables which you can use in model documentation. Variables always have a specification of their respective user area.

Variable	Effect	Distinctive Feature
`$(creation_date)`	Enter the date and time of creation.	Specification editor The date format is taken from the settings in the `inolocal.ini` file.
`$(creator)`	Replaced by the creator's name in the documentation.	Only on title pages, headers and footers
`$(date)`	Replaced by the system date in the documentation.	Only on title pages, headers and footers Set the date format using the settings in the `inodocu2.ini` file.
`$(history)`	Enter the history entry which contains information about creation and last change made with the respective user, as well as time and date.	Specification editor
`$l(label)`	Enter the value of the label entered.	Specification editor You need to have defined the label beforehand.
`$(model_name)`	Enter the name of the model.	Specification editor
`$(modifier)`	Enter the name of the user who last made changes to the corresponding element.	Specification editor
`$(modification_date)`	Enter the date and time of the last change.	Specification editor The date format is taken from the settings in the `inolocal. ini` file.

Variable	Effect	Distinctive Feature
`$(number)`	a) Is replaced by the total number of pages in the section in the documentation. b) Cross-references are replaced by a chapter reference in the main text or by continuous numbers of an enumeration point within an enumeration list (see dot commands `.list` and `.item`, chapter C-8.1.5, "Editing Enumerations", page C-153).	a) Only in headers and footers
`$(page)`	a) Replaced by the current page number in the documentation. b) Cross-references are replaced by a page references in the main text in the documentation.	a) Only in headers and footers
`$(repository)`	The name of the repository which contains the project which the documentation was created with is replaced in the documentation.	Only on title pages, headers and footers
`$(selection)`	Replaced by the name of the selection used in the documentation.	Only on title pages, headers and footers
`$(structure)`	Replaced by the name of the structure tree used in the documentation.	Only on title pages, headers and footers
`$t(text)`	Enter the contents of a specification type.	Specification editor You can only use this wildcard if you have defined the specification type beforehand (see chapter C-2.4.2, "Creating and Modifying Specification Types for Elements", page C-27).
`$(time)`	Replaced by the system time in the documentation.	Only on title pages, headers and footers Set the time format using the settings in the `inodocu2.ini` file.
`$(title)`	Replaced by the name of the first heading which is not hidden and had a variable replacement in the documentation	Only on title pages, headers and footers
`$(type)`	Replaced by the type of documentation in the documentation.	Only on title pages, headers, footers or headings in level 1's selection point and the heading from additionally-inserted chapters on all levels.

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Variable	Effect	Distinctive Feature
`$(user)`	Replaced by the value of the `USER` environment variables in the documentation.	Only on title pages, headers and footers
`$(version)`	Replaced by Innovator's current version recognition in the documentation.	Only on title pages, headers and/or footers
`$av(attribute_name)`	Enters the value of the attribute.	Specification editor. Only available for objects in Innovator Business and Object classiX, as well as for activities in Innovator Business.
`$ad(attribute_name)`	Enter the declaration of attribute.	
`$at(attribute_name)`	Enter the type of attribute.	

C-8.2.2 Variables Used in the Specification Editor for SA/SD Models

Specifications for SA/SD model can contain the following special variables.

Variable	Effect	Distinctive Feature
`$(sa_text)`	Replaced by the analysis text of the SA object assigned to the element in the documentation.	If no analysis assignment or such a text is available, a specification is not generated.
`$(sd_text)`	Replaced by the element's design text in the documentation. (Module, operation and data implementation)	If no such text is available, a specification is not generated.
`$(definition)`	Replaced by the data dictionary entry in the documentation. (DD entry and DD implementation)	

`$(callto)`	Replaced by a text which contains all calls with parameters which need to be implemented according to design in the operation in the documentation. Text generation is dependent on the language set in the model:
	`C`
	`opname ([data type1 parname1, ...]);`
	`COBOL`
	`CALL "opname" [USING parname1 ...]`
		If no calls of this type are available, `Call nothing` is generated.

Variable	Effect	Distinctive Feature

`$(callby)`	Replaced by a text which contains all calls with parameters for the current operation for other operations which need to be implemented according to design.
	(Operation implementation)
	Text generation is dependent on the language set in the model. The syntax used corresponds to the one specified by the `$(callto)` wildcard, whereas the operation called is specified beforehand in the following format:
	`opname :`
	`...`
		If no calls of this type are available, `Call nothing` is generated.

`$(read)`	Replaced by the name of the data field read for operation implementation in the documentation. This wildcard is replaced by the name of the operation which is read from this data field for data implementation.	Whether a data field is read or written depends on the direction of the parameter to the call link in the operation diagram.
`$(write)`	Replaced by the name of the data field written for operation implementation in the documentation. This wildcard is replaced by the name of the operation which is written in this data field for data implementation.	Whether a data field is read or written depends on the direction of the parameter to the call link in the operation diagram.

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